STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 08-T-0034 – Application of Hudson Transmission Partners, LLC for a Certificate of Environmental Compatibility and Public Need for a 345 kV Submarine/Underground Electric Transmission Link Between Manhattan and New Jersey.

ORDER GRANTING CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

(Issued and Effective September 15, 2010)

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At a session of the Public Service Commission held in the City of Albany on September 8, 2010

COMMISSIONERS PRESENT:

Garry A. Brown, Chairman
Patricia L. Acampora
Maureen F. Harris
Robert E. Curry, Jr.
James L. Larocca

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BY THE COMMISSION:

INTRODUCTION

On January 15, 2008, Hudson Transmission Partners, LLC (HTP or the Applicant) filed, pursuant to Public Service Law (PSL) Article VII, an application for a certificate of environmental compatibility and public need for an electric transmission facility.[1] HTP proposes to build and operate a 345 kV electric transmission link between midtown Manhattan and the neighboring regional electric system located in Pennsylvania, New Jersey and

[1] HTP is a New York limited liability company. Its members are Hudson Power Ventures, LLC; Anbaric, LLC and Triton Partners LLC. The principals of these firms are also principals of the Neptune Regional Transmission System, LLC, which constructed and now operates the 345 kV transmission facility that links New Jersey with Long Island.

Maryland (PJM). Shortly after it filed, HTP supplemented its application on February 22, 2008.[2] Thereafter, on February 29, 2008, the Secretary to the Commission determined that the application complied with the information requirements in the form prescribed (PSL §122(4)) and a public hearing could be scheduled.[3] In accordance with PSL §123, the first hearing in this case was held on April 28, 2008 at the Commission's New York City offices. The public was given this opportunity to comment on the proposed transmission facility but no one did.

The Administrative Law Judge assigned to the proceedings initially set a schedule to hear this case in 2008.[4] Shortly after the schedule was set, the active parties provided notice and began settlement discussions (pursuant to 16 NYCRR 3.6 of the Commission's rules of procedure) and the case schedule was postponed.[5] Ultimately, the parties were unable to settle their differences and litigation resumed. The case proceeded to an evidentiary hearing on April 27, 2010 with the hearings concluded on May 3, 2010.[6]

In addition to the Applicant, the active parties include: Department of Public Service (DPS) Staff, the State Department of Environmental Conservation (DEC), the New York Power Authority (NYPA), the New York City Economic Development

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[2] The February 2008 supplement provided a System Reliability Impact Study approved by the New York Independent System Operator (NYISO).

[3] Secretary Brilling's February 29, 2008 letter addressed to John W. Dax, Esq. and Mr. Chris Hocker.

[4] Case 08-T-0034, Ruling Setting Case Schedule (issued April 29, 2008).

[5] Case 08-T-0034, Ruling Suspending Schedule Pending Settlement Negotiations (issued July 30, 2008).

[6] Case 08-T-0034, Ruling Resuming Litigation Schedule (issued November 10, 2009); Ruling Postponing Litigation Schedule (issued January 11, 2010); and Ruling Altering Hearing Date (Issued January 14, 2010).

Corporation (NYC EDC), the New York City Department of Parks and Recreation (NYC Parks), the Independent Power Producers of New York (IPPNY) and Cross Hudson LLC.[7] Consolidated Edison of New York, Inc. made a limited appearance in the proceeding, on April 27, 2010, and provided a written statement in support of HTP's application. All parties, except Cross Hudson, participated in the evidentiary hearing and, following the hearings, all parties (including Cross Hudson) submitted briefs on June 17 and reply briefs on July 8, 2010.

The Transmission Facility

HTP proposes to interconnect with the PJM regional electric network at the Bergen Substation in Ridgefield, New Jersey. It would run a 230 kV underground cable 1,760 feet from the substation to a converter station where the alternating current would be converted first to direct current and back to alternating current at 345 kV. From there, HTP will install about 14,458 feet of underground cable to carry the 345 kV alternating current under New Jersey streets and railroad rights-of-way to a transition vault in Edgewater, New Jersey where the cable will be spliced into a submarine cable running about 20,120 feet in the bed of the Hudson River to a transition vault located under the road on West 52nd Street in Manhattan. There the cable will be spliced to about 1,125 feet of electric cable located in conduits on West 52nd Street and 12th Avenue going south to the 12th Avenue

[7] Like HTP, Cross Hudson is developing an electric transmission facility between New Jersey and midtown Manhattan. In 2003, it received a certificate of environmental compatibility and public need for a 345 kV transmission facility from the Bergen Switchyard in Ridgefield, New Jersey to Consolidated Edison's West 49th Street Substation. Case 01-T-1474, PSEG Power Cross Hudson Corporation, Opinion and Order Adopting Joint Proposal and Granting Certificate (issued April 17, 2003); Order Granting Amendment of Certificate (issued October 21, 2004).

entrance of Consolidated Edison's West 49th Street Substation where the transmission facility terminates.

The portion of the transmission facility on land will be constructed using conventional urban street trenching methods. The portion located in the Hudson River will be installed using jet plowing. The transitions from land to river will be made using horizontal directional drilling.

The transmission facility has the capacity to transfer 660 MW of energy from the PJM region to midtown Manhattan and 320 MW of firm capacity that qualifies as installed capacity for New York City. HTP limited its investment in system upgrades in PJM to qualify for delivery of the 320 MW; significant investment in upgrades is required for delivery of 660 MW.

General Description of the Parties' Positions

The New York Power Authority not only supports the proposed facility, it is largely responsible for its initiation and promotion.[8] In March 2005, NYPA issued a request for proposals for up to 500 MW of electric capacity and energy for its governmental customers.[9] HTP was the winning bidder. NYPA expects to enter into a contract with HTP to purchase firm transmission capacity. The contract will comply with Federal Energy Regulatory Commission (FERC) requirements and precedents authorizing transmission project developers to provide wholesale transmission service at negotiated rates. According to NYPA, the transmission facility will enable it to acquire competitively priced electricity, in an environmentally compatible manner, to meet its

[8] NYPA is a corporate municipal instrumentality, and a political subdivision of the State of New York created pursuant to Chapter 772 of the New York Laws of 1931 and the New York Public Authorities Law (PAL) Article 5.

[9] NYPA's customers include New York City, the Metropolitan Transit Authority (MTA), and the Port Authority of New York and New Jersey (PAL §1005). NYPA rates, services and practices are not subject to Public Service Commission regulation (PAL §1014).

obligations to provide electric service in a cost-effective manner to governmental customers located in New York City.

The New York City Economic Development Corporation also supports the proposed facility. As the City's principal energy policy advisor, it expects the HTP facility to increase City access to more affordable energy sources, to enhance electric system reliability, and to provide for a reduction in the operation of obsolete, in-city power plants. NYC EDC expects the electricity flowing from the lower-cost PJM region to be highly competitive across a wide range of operating hours which will lower prices in the wholesale market that operates in the City.

Consolidated Edison provided a written statement from the Company's Vice President for Energy Management supporting the HTP facility. Con Edison favors the transmission facility because it will provide additional electric supplies to the West 49th Street load area thus providing greater flexibility to serve the local loads and eliminate stress on the electric system. The new line would reinforce the West 49th Street transmission load area and be available as an additional resource to meet growing, peak load demand for electricity in the City. Con Edison looks forward to the operational diversity and flexibility the additional electric resources entering the transmission system from the PJM system can provide. These resources would be available to clear system overloads resulting from the loss of a generating unit or a transmission line, help to avert an electric system emergency and avoid expenses for other system refinements to address stress on the system at this location.

DPS Staff supports the HTP transmission facility, but it proposes route modifications and certain conditions. DPS Staff presented two engineers, an economist and several environmental experts who testified in support of the HTP facility. The engineers and economist examined the need for the facility and the

project's costs and benefits, among other things. Staff also considered the air emissions associated with the electricity that would be imported into New York by the transmission facility and otherwise fully examined the project's environmental impacts. From its review, DPS ascertained that the facility is needed and its cost is supported by its likely benefits. Staff considers the HTP facility to be consistent with the State's most recent energy plan and its air emissions to be within the minimum adverse environmental impact that governs our certification of the facility.

Rather than locate the facility in the West 52nd Street roadbed, Staff proposes that it enter the DeWitt Clinton Park located between West 52nd Street and West 54th Street. On 12th Avenue, Staff proposes to locate the HTP facility in the roadbed rather than under the sidewalk as proposed by the Applicant. According to Staff, the alternate route would minimize adverse impacts and hardships for businesses along West 52nd Street and on 12th Avenue. DPS Staff also supports several certificate conditions including one to preclude cost-of-service ratemaking treatment for this merchant-developer transmission facility.

New York City's Department of Parks and Recreation is opposed to Staff's proposal to use DeWitt Clinton Park for the transmission facility. The park is used by local residents and other patrons to play baseball, basketball, games and spray shower play, and for its paths, benches and its open concrete areas. NYC Parks opposes any significant disruption to the park's use and enjoyment, and any inconsistent use of this valuable resource.

The State Department of Environmental Conservation is opposed to the HTP transmission facility because of the type of electric energy it claims the facility will deliver from the PJM region. DEC maintains that the facility is expected to increase production of coal-fired electricity from the PJM region for sale

in New York. With their high pollution profiles, DEC asserts, increased production by coal-fired generators would contribute to air pollution or a higher emissions profile in New York. DEC considers the issuance of a certificate for this facility to be contrary to the State's long-range plan for the expansion of the electric power grid. DEC does not believe the HTP facility represents the minimum adverse environmental impact to serve the public interest because it supports the repowering of in-city generators as a preferable alternative.

The Independent Power Producers of New York intervened in this case to oppose the HTP facility.[10] It asserts that the facility is not economically justified and it is not needed to meet electric system reliability requirements. Further, IPPNY asserts that the transmission facility can detrimentally affect New York City's competitive energy market. Cross Hudson is also opposed to the HTP facility. It asserts that the facility is not needed and it will not serve the public interest or the interests of the electric system in economy and reliability and its public benefits are not commensurate with the costs to be imposed on NYPA's customers.

Motion to Certify the Record

By Motion dated May 4, 2010, HTP requested certification of the record in this case directly to the Commission for review and deliberations without the benefit of a recommended decision. In support of its motion, HTP states that it needs a decision as soon as possible to obtain other permits and approvals that hinge upon its receipt of a certificate of environmental compatibility

[10] IPPNY is a not-for-profit trade association which represents the independent power industry that operates in New York. It has over 100 members who are involved in the development, operation and ownership of electric generators, and the marketing and sale of electric power in the wholesale and retail markets.

and public need. The Applicant states time is of the essence because it must obtain and close a construction loan by mid-September 2010 to post security and remain in the PJM region's current interconnection queue.[11] NYPA supports the request. The request is opposed by DPS Staff, DEC and Cross Hudson, all of whom believe that a recommended decision would help to frame the contested matters. They challenge the assertion that the timing of the project is so critical that we should forgo a procedure commonly used in Commission proceedings that permits parties to address a recommended decision and submit briefs on exception and opposing exceptions.

While we often find recommended decisions to be valuable contributions to the deliberative process employed in Commission proceedings, they are not always prepared and are often omitted in cases to save time and facilitate compliance with deadlines. In this instance, the Applicant has claimed that time is of the essence if the HTP project is to survive and remain a viable prospect in the planning and electric system improvement process employed in the PJM region. We are forgoing the typical step of having a recommended decision before us in this case, which presents major contested issues, primarily because it has taken a relatively long time for the parties to process this application for a certificate and present it to us for our action. Given HTP's desire for prompt action so as not to lose any valuable time in the PJM cycle of annual system improvements and modifications, we are accommodating its request. We are doing so without introducing any procedural disadvantage for the active parties who have fully presented their reasons for opposing the HTP facility or for seeking modifications to its landfall route in New York and certain certificate conditions. The active parties received ample

[11] By letter dated May 26, 2010, HTP informed us that the due date for its security posting was postponed to October 31, 2020.

opportunities to present their evidence at the hearing provided for the contested issues and to argue their points in the briefs filed on June 17 and July 8, 2010.

UNCONTESTED MATTERS

Visual Impacts

According to DPS Staff, no long-term adverse visual impacts are anticipated or associated with the HTP facility. After construction, the only portion of the HTP facility that will be seen is a manhole cover on West 52nd Street providing access to a fluid vault. The entire facility is below ground.

During construction, barges and support vessels will be seen along the submarine cable route but this visual impact will be temporary and minimal given the broad, panoramic river view from the Manhattan waterfront and the amount of maritime activity on the river. On land, construction activity will also be observed as the conduit is installed in an open cut trench. Cobblestones on West 52nd Street will be removed, stockpiled and replaced. Following construction, all disturbed areas will be restored to their pre-existing condition.

Terrestrial Ecology and Wetlands

Given its urban location, the HTP facility will have limited natural resource impacts. HTP will be handling soil and water, and it will have to control its horizontal directional drilling operation to avoid spills and the release of materials.

The project's wetland impacts are limited to its in-water construction activity and its effects on the littoral zone of tidal wetlands. Here too, HTP will have to avoid spills that could adversely affect wetland water quality or habitats.

No upland natural resource impacts are anticipated other than the turbidity and sedimentation effects arising from construction disturbance of soils on littoral zone wetlands. These effects are temporary and controllable; the certificate

conditions that apply to the facility address the natural resources and ensure that the environmental impacts will be minimized.

Topography and Soils

According to DPS Staff, the HTP facility will likely have negligible impacts on topography and soils. Surfaces will be restored to their pre-existing condition following construction and erosion control plans will be included in the Environmental Management and Construction Plan (EM&CP). Excavated soil will be examined and analyzed to determine if it is suitable to use as backfill.

Water Resources

Within the upland vicinity of the HTP project, there are no potable drinking water supplies, designated aquifer zones or any other sensitive groundwater resources. Consequently, no impacts are expected for any groundwater resources. HTP will use best management practices during any operations that could potentially have an adverse impact on surface water. Such impacts include the sediment suspension and elevated turbidity concentrations from the jet plow and dredging operations, and upland erosion and storm water transport of soil. Monitoring of suspended sediments, turbidity and water quality will be performed before and during the cable installation. Mitigation measures will be used if suspended solids concentrations exceed certain thresholds. Sediment and benthic community monitoring will continue after the cable installation is completed.

HTP's jet plow operations should not create a plume of suspended sediment in concentrations that would significantly impact ecological conditions. HTP is required to have a water quality monitoring plan that will be included in its EM&CP.

A DEC witness, Ms. Karen L. Woodfield, as a member of the agency's Division of Water - Sediment Management and

Assessment Unit, proposed certificate conditions and measures for HTP to minimize the environmental effects due to the jet plow installation of the transmission cable in the Hudson River sediment.

The conditions Ms. Woodfield proposed are routinely applied to dredging or cable pipeline installation projects and they have been applied to the Bayonne Energy Center[12] and the Cross Hudson cable installation projects. DEC's Technical and Operational Guidance Series (TOGS) for in-water and riparian management of sediment and dredged materials require that the character of the sediment be identified by collecting samples and sending them for laboratory analysis. Once the contaminants are identified in the sediment, specific monitoring conditions are placed into a permit to protect water quality during the jet plow installation process.[13]

Dredging at the cofferdam location may suspend sediment in the river. To minimize the loss of sediment during transport, HTP will use an environmental bucket with sealing gaskets, overlapping sealed jaws and various seals and flaps covering vent openings. The dredged sediment will be placed on a scow and decant water will be collected from the sediment and pumped back into the river.[14]

The horizontal directional drilling (HDD) operations at the landfall in Manhattan will have temporary and localized

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[12] Case 08-T-1245, Bayonne Energy Center, LLC, Order Adopting the Terms of a Joint Proposal and Granting Certificate of Environmental Compatibility and Public Need, with Conditions (issued November 12, 2009).

[13] Tr. 1214-18.

[14] HTP, in supplemental testimony prefiled on April 8, 2010, offered a mitigation measure for handling and discharging decant water from the cofferdam dredging activity that DPS Staff supports for inclusion among the certificate conditions. The decant water will be stored in a holding scow for at least 24 hours to allow fine sediments to settle. Tr. 742.

impacts as long as HTP uses proper storm water control and dewatering methods. The excavation will be limited to the minimum amount of area needed for the cable's landfall transition. The material dredged at this location will be disposed at a state-approved facility and will not be discharged into the Hudson River. Sediment erosion controls will be used to control sediment releases during the HDD operations. HTP will take precautions to minimize the loss of HDD fluids by monitoring drilling fluid pressure and by collecting fluids for their reuse.

Soil erosion from upland construction may also produce suspended sediment and contaminants that can enter the river. HTP will provide an erosion control plan with its EM&CP showing the control and mitigation measures that will be used.

Aquatic Organisms

According to Staff, the HTP facility will only have temporary impacts on bottom sediments in the Hudson River during cable installation; no permanent or long-term impacts are expected from the facility's installation or operation. Disturbance of the bottom sediments will increase turbidity and suspended sediment concentrations. Sediment particles will become more available to aquatic organisms but no long-term or permanent aquatic impacts are expected. The facility avoids entirely the freshwater and tidal wetlands located in New York.

The substrate along the cable route will re-establish itself shortly after the cable is installed and natural deposition will gradually re-establish a layer of sediment over the cable route. Suspended sediments, turbidity and water quality will be monitored before, during and after cable installation. Mitigation measures will be implemented if suspended solid concentrates exceed the established thresholds. Sediment and benthic community monitoring will be performed after completion of the cable installation.

The submarine cable will be installed in the riverbed of the lower Hudson River which is a habitat for various fish species. They include winter flounder, windowpane flounder, Atlantic butterfish, summer flounder, red hake, scup and bluefish. The impacts on these finfish will be localized, temporary and short-term. After the cable is installed, no adverse impacts on fish resources are expected.

Existing sediment in the river bottom habitat supports a benthic community dominated by polychaete worms and a variety of amphipods and shrimp. This community serves as a food resource for fish. A short-term impact will be experienced by this community but with natural sedimentation a re-colonization of benthic invertebrates is expected within months after the cable is installed.

DEC presented a Marine Resources Program Manager, Ms. Susan Maresca, who addressed the marine resources that would be affected by the HTP transmission facility and she proposed certificate conditions for the construction and operation of the facility.

To protect winter flounder spawning areas along the route, Ms. Maresca proposed that construction in the navigable waters of the Hudson River not occur between February 1 and May 31. However, during this period, the following activities could occur: geotechnical and archeological sampling and testing; mobilization and demobilization of vessels and equipment used for cable installation and cofferdam construction; locating and marking utility crossings; and, with appropriate consent, cable maintenance and repair work. After the facility is constructed, HTP may petition for a modification of the construction window limitation.[15]

[15] Tr. 1201-02.

To protect striped bass during overwintering times, the installation of the cofferdam in the river at 49th Street cannot occur between December 1 and March 31. After the cofferdam is installed, other work can proceed without impediment to the fish.[16]

With respect to the Hudson River benthic life (such as worms and mollusks) that will be affected by the jet plow, Ms. Maresca proposed that HTP consult with DEC and DPS Staff and submit a plan for pre- and post-installation sediment monitoring at, at least, five locations evenly spaced along the route. A mitigation plan will be developed from the monitoring program to accommodate and address the benthic habitat. A method and schedule for the implementation of the mitigation measures will be developed.[17]

With respect to fisheries and aquatic ecosystem resources, the use of a jet plow will minimize the impacts upon them. Jet plowing will reduce the adverse effects of river-bottom disturbances in contrast to the use of trenching excavation. The jet plow can impinge upon or entrain fish eggs and larvae in its water intake and outflow-jetting system but these impacts are not expected to be significant.

The lower Hudson River is also a significant coastal fish and wildlife habitat. In this vicinity, sea turtles are sometimes present, particularly during summer months. Several species of marine mammals have also been sighted occasionally in the lower Hudson River. Given their mobility and seasonal migration patterns, the potential for the HTP project to interact with marine mammals is limited. With respect to short-nose sturgeon that may use the lower Hudson River during their migration from freshwater spawning grounds to their deepwater wintering grounds, it is expected that they will use a deepwater

[16] Tr. 1202.

[17] Tr. 1202-07.

channel and not the shallow areas where the cable work will be performed.

In sum, given the location of the transmission facility, the timing of the construction activity in the Hudson River, the use of low-impact installation methods, and the limited amount of time devoted to project construction, no significant impacts are expected to occur to any protected aquatic species or habitats. In its initial brief, DPS Staff reports that there are no contentious issues related to fisheries and other aquatic ecosystem resources, and appropriate control measures are being used to minimize adverse impacts on aquatic resources.[18]

Communications

The HTP facility is not expected to have any significant effects on telecommunications or on radio and television signal transmissions.

Underground Infrastructure

An exhibit has been provided in this case showing the location and depth of the existing underground utility infrastructure in the vicinity of the HTP facility.[19] HTP will use this information to avoid damage to water and sewer mains. HTP is expecting to find a clear route for the transmission facility that will maintain proper separation from existing facilities.

Electric and Magnetic Fields

DPS Staff reports that the HPT facility's magnetic field strength will be below the standard the Commission has established, except in the splice area where the cable is in a horizontal configuration. At this location, the magnetic fields will require mitigation which can be accomplished by using a greater burial depth and by reducing the distance between phases.

[18] DPS Staff Initial Brief, p. 66.

[19] Exhibit 31.

It could also be mitigated by extending the copper armor wires or installing passive loops. Staff has proposed that HTP provide its mitigation approach with its EM&CP. HTP accepts this approach.[20]

OTHER PERMITS AND APPROVALS

Overview

The HTP facility requires various permits and approvals in addition to the certificate we provide. HTP reports that, in most instances, it has either obtained its permits or they are in their late stages of review. All approvals needed in New Jersey have been acquired, other than routine building permits. An application for a work permit and easement in the New York portion of the Hudson River has been filed with the Office of General Services and filings have been made with the Department of State for a Coastal Consistency Determination. Applications are also pending with the New York City and State Departments of Transportation for consent to work in the city streets and State Route 9A (12th Avenue). Further, HTP has applied for permits to be issued under §10 of the River and Harbors Act of 1899 and §404 of the Clean Water Act by the U.S. Department of the Army. HTP will not receive all of its federal, New York City and State permits, approvals and consents until after it receives its certificate of environmental compatibility and public need.

Underwater Archeological Resources

DPS Staff notes that all state agencies are required to consider impacts on properties listed on the National Register of Historic Properties. The Commissioner of the Office of Parks, Recreation and Historic Preservation (OPRHP) must receive notice and be given an opportunity to consult on projects that could affect properties listed on, or eligible for inclusion in the National and State Registers of Historic Places. According to

[20] HTP Initial Brief, pp. 28-29.

Staff, as of the close of the administrative record, OPRHP had not issued its "no impact" determination.

Staff also states that HTP has identified potential underwater archeological resources in its application and it was asked to provide OPRHP information showing how it would avoid any such resources encountered by the transmission facility. According to Staff, HTP had not provided a response to OPRHP. However, HTP states that this matter is covered by a certificate condition calling for it to include in the EM&CP its plans for avoiding impacts on underwater archeological resources. From its review of submerged cultural resources, HTP is aware of 17 targets that may represent cultural material from shipwrecks. If it cannot avoid these targets, HTP is prepared to have a marine archeologist dive to the sites to inspect them and develop appropriate mitigation measures. According to HTP, a similar process was used for the Neptune transmission facility.

Subsequent to the close of the record, the Applicant submitted a "Plan to Avoid or Further Assess Potentially Significant Submerged Targets Along the Submarine Cable Route in New York Waters" dated July 23, 2010, for the proposed facility route within the Hudson River. The plan lists the background studies performed to date, and identifies the strategies for final route refinement, identification of submerged resources, and avoidance and mitigation measures to be included in the EM&CP. The plan provides appropriate certificate conditions, as recommended by DPS Staff, for the completion of cultural resource surveys prior to construction, and measures for addressing unanticipated discoveries during the facility's installation. The OPRHP Field Services Bureau advised, by correspondence dated August 9, 2010, that the plan is acceptable and that it will review additional details as they become available as the project design advances into the EM&CP stage. As a further clarification,

DPS Staff now advises that the agency's formal responsibilities under Parks, Recreation and Historic Preservation Law §14.09 have been supplanted due to National Historic Preservation Law §106 which will be addressed in the ongoing permitting by the U.S. Army Corps of Engineers for construction within the Hudson River. We find that the certificate conditions adequately address the need to preserve underwater archeological resources and that OPRHP will be notified and consulted with respect to any such items encountered by the construction of the HTP facility.

Federal Clean Water Act §401 Permit

By letter dated April 30, 2010, HTP formally requested that the Commission issue a Water Quality Certificate for the transmission facility pursuant to §401 of the Federal Clean Water Act. DEC has provided proposed conditions for the certificate and DPS Staff has prepared a draft certificate that accompanied its Initial Brief.[21]

CONTESTED MATTERS

Need

1. Reliability

HTP asserts that the proposed transmission facility will increase electric system reliability and serve the needs of NYPA's governmental customers. It will deliver lower cost electricity to them and provide other New York City customers access to lower cost electricity. In 2005, NYPA solicited bids for additional generation and transmission capacity and HTP's proposal was selected in November 2006. As recently as the April 2010 hearing, NYPA affirmed its need for the HTP facility to meet statutory and contractual obligations to governmental customers in the New York City area.[22]

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[21] DPS Staff Initial Brief, Appendix B.

[22] Tr. 1112.

Addressing electric system reliability, DPS Staff testified that the facility can provide protection should a large amount of existing capacity be retired to meet air emission standards. Also, should an abrupt event affect the availability of the existing in-city capacity — such as a long-term outage of a large generator — DPS Staff has testified that the HTP facility would provide system reliability.[23] In a similar vein, an HTP witness addressed the possibility of the Indian Point nuclear power facility in Westchester County being retired if it is not relicensed or if its owner is unwilling to install cooling towers. Should this occur, the HTP witness stated that the facility could serve and provide system reliability.[24]

From its review of the Commission's need determinations in the certificates granted to the Cross Sound Cable Company in June 2001 and to the Neptune Regional Transmission System in January 2004, HTP believes that its facility can provide comparable system benefits and the Commission can provide it a certificate on similar grounds.[25]

The need for the HTP facility has been challenged by IPPNY and Cross Hudson. IPPNY asserts that there is no system reliability requirement for this facility and claims that the HTP facility costs exceed any benefit to be had from its construction

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[23] Tr. 1414.

[24] Tr. 384; 388. DEC considers HTP's assertion that the Indian Point facility may close as being pure speculation. DEC Initial Brief, pp. 17-18. We disagree. See discussion below at p. 44.

[25] Case 00-T-1831, Cross Sound Cable Company, Opinion and Order Adopting Joint Proposal and Granting Certificate of Environmental Compatibility and Public Need (issued June 27, 2001); Case 02-T-0036, Neptune Regional Transmission System, LLC, Opinion and Order Adopting Joint Proposal and Granting Certificate of Environmental Compatibility and Public Need For a Transmission Facility from New Jersey to Long Island (issued January 23, 2004).

and operation.[26] IPPNY also asserts that the HTP facility will have a detrimental impact on the competitive energy market in New York City.[27]

Cross Hudson asserts that the record shows no need for any new capacity resources in New York City, using a traditional assessment, until 2019 at the earliest.[28] According to Cross Hudson, the lack of any need for this facility is highlighted by the NYISO's mitigation rules that do not permit the HTP facility to receive any capacity revenue for the next 10 to 20 years, and even longer with the Bayonne generation unit included in the New York City resource base.[29] From this analysis, Cross Hudson concludes that the HTP facility is not needed to assure reliable service in the New York City market. Cross Hudson also points out that it has been 43 months since NYPA announced its selection of the HTP project and, since then, NYPA has not entered into a contract with HTP to purchase any transmission rights or to otherwise use the proposed facility. Given this lapse, and the reduced amount of capacity that NYPA would obtain from the HTP facility (down from 600 MW to 320 MW), Cross Hudson believes the lack of any need for this facility is obvious.

However, NYPA states that it continues to need the HTP facility to fulfill its electric capacity and energy objectives, and the facility will enable it to acquire competitively priced electricity to serve governmental customers in a cost-effective manner. NYPA has served its customers since the mid-1970s using long-term supply agreements and it projects a capacity shortfall

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[26] We address the project's costs and benefits below.

[27] Market impacts are also addressed below.

[28] Exhibit 44, pp. 21-22.

[29] Tr. 964-65.

coincident with the Poletti power plant ceasing its operations.[30] Further, NYPA's Board of Trustees has accepted the HTP project proposal. Thus, NYPA states that its capacity supply requirements provide a true need and basis for us to grant HTP the certificate it has requested. NYPA acknowledges that it could satisfy its capacity shortage by making NYISO market purchases; however, its governmental customers prefer that NYPA procure resources and provide a hedge against long-term market risk.

NYC EDC also supports the HTP facility for the access it will provide to affordable energy sources; for its electric system reliability enhancement; and for its ability to reduce the operation of obsolete in-city power plants. NYC EDC acknowledges that the NYISO has forecast a surplus of generation resources to 2018; however, other considerations lead NYC EDC to favor the HTP facility. Drawing electricity from a wider geographical area, NYC EDC asserts, will provide load pocket relief for NYISO Zone J. Also, by improving local reliability conditions in the vicinity of the West 49th Street Substation, NYC EDC believes the HTP facility can help to eliminate system stress and increase operating flexibility. NYC EDC believes that the HTP facility reinforcement of the West 49th Street transmission load area establishes a direct reliability need for the facility. It states that the Commission recognized similar local reliability improvements as a factor supporting the certification of the Bayonne Energy Center to improve conditions at Con Edison's Gowanus Substation.[31] NYC EDC notes that the existing interconnections from Zone J to the PJM region are limited and operationally constrained for significant

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[30] The Poletti facility ceased operations on January 31, 2010 and NYPA now shows a capacity deficiency of 856 MW that will decline to 357 MW when Astoria Energy II comes on line in 2011. Beyond then, NYPA's capacity deficiency increases steadily to nearly 600 MW by 2025.

[31] Case 08-T-1245, supra (Bayonne Energy Center, LLC).

portions of the year. NYC EDC believes that a proper need assessment and determination should credit the environmental enhancements and the economic benefits that can flow from the HTP facility.

DPS Staff recognizes that the HTP facility is designed to address NYPA's load requirements. Given NYPA's long-term contractual obligations to serve governmental customers, DPS Staff also recognizes that NYPA must procure sufficient capacity to meet its customers' needs. While NYPA may make its purchases in the NYISO market, Staff considers it reasonable for NYPA to adopt a strategy and long-term plan to secure its own capacity resources. DPS Staff accepts NYPA's forecast of the in-city capacity requirements of its governmental customers that shows a current capacity gap increasing in 2015 and beyond.

2. Economics

HTP did not provide with its application a cost/benefit analysis to support the proposed transmission facility as none is required by the applicable regulations and specifications for a complete and actionable Article VII application. Nevertheless, NYC EDC provided for the record a study it commissioned in 2009 that considers the potential benefits and costs associated with this facility.[32] NYPA asserts that this analysis, provided by the Charles River Associates, shows that the HTP facility will provide between $276 million and $347 million in direct energy benefits and $13 million in direct capacity benefits over a 10-year period.[33] Taking into consideration indirect energy and capacity

[32] Exhibit 22, A Master Electric Transmission Plan for New York City, dated May 28, 2009; Exhibit 44, A Master Transmission Plan for New York City, Final Briefing (June 2, 2009); and Exhibit 23, Hudson Transmission Line Revised Benefits Analysis, dated January 19, 2010.

[33] NYPA Initial Brief, p. 12.

benefits, NYPA claims that the HTP facility's total benefits amount to $829 million over ten years.[34]

DPS Staff also examined the Charles River Associates analysis and from it concluded that the HTP facility would cost $836 million (including $300 million for PJM system upgrades) and provide New York City consumers benefits between $412 million and $763 million (as shown in the May 2009 study) and as high as $1.763 billion (as shown in the January 2010 study).[35] While recognizing the uncertainties that can affect and alter any forecast of future energy prices, Staff concludes that there could very well be a net customer benefit for New York City customers from the operation of the HTP facility.[36]

From a societal economic benefits perspective (an approach that focuses on production cost savings and, unlike the estimate of New York City consumer benefits, ignores the transfer payments between ratepayers and the owners of electric generation facilities), Staff believes that the negative savings indicated by the Charles River Associates January 2010 production cost savings study are counterintuitive. For this reason, it developed an estimate of the HTP facility's societal, economic benefits using a subset of the New York City consumer benefits shown in the Charles River Associates study. From examining the direct benefits, Staff states that it has arrived at a conservative estimate of the facility's production cost savings amounting to $431 million over 20 years.

In addition to the facility's energy benefits, Staff states that it can provide up to 660 MW of capacity benefits for New York City – but not at this time due to the market capacity

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[34] Id.

[35] Staff states that NYPA hired a consultant, Navigant, who has estimated even higher amounts of benefits for New York City customers.

[36] DPS Staff Initial Brief, p. 19.

that currently exists. According to Staff, absent any early retirements, the HTP facility can qualify for capacity payments starting in 2019. Including them in the production cost savings for the HTP facility yields benefits in the range of $663 million to $891 million on a 20-year, net present value basis. From this, Staff states it is unclear whether the HTP facility will cover its costs estimated at $836 million. Nevertheless, Staff recognizes that the facility's useful life extends well beyond 20 years and its benefits could be $924 million to $1.268 billion over a 40-year period.

Considering only the facility's 320 MW of capacity withdrawal rights from the PJM system, DPS Staff would reduce its cost and benefits estimates. Staff's 20-year estimate of benefits (including energy and capacity) is between $543 million and $654 million – a range below the cost of the project. Staff's 40-year estimate is between $744 million and $911 million – slightly above the project's revised, estimated cost of $716 million.[37]

Given these results, Staff supports certification of the HTP facility as a project that does not depend on public utility funds or financing. Staff does not support any public utility shouldering the economic risk of this project. Were a public utility company in New York to consider a long-term commitment for the energy or capacity from this facility, Staff states that the utility company must petition the Commission for authority to participate in the HTP project. At that time, the Commission would consider the costs and benefits of the utility company's involvement in the project.

[37] During cross examination, HTP provided its costs for the PJM system upgrade facilities. Substituting this value ($180 million) for the estimate used in the CRA studies ($300 million) yields a $120 million reduction in the cost of the HTP facility. DPS Staff Initial Brief, p. 23.

IPPNY and Cross Hudson claim the economics of the HTP project do not support its certification. IPPNY states that the costs of the HTP project exceed the production costs savings. It accepts the negative production cost savings shown in the Charles River Associates May 2009 analysis, and states that $86 million of production cost savings through 2023 does not begin to approach the analysis' estimate of the $836 million of project costs. IPPNY also notes that the DPS Staff study yields uncertain results as to whether the HTP project benefits exceed the project costs. If anything, IPPNY believes that Staff has overstated the project benefits by using the facility's maximum capacity in its calculation. According to IPPNY, if less than 50% of the facility's capacity is available, the project does not yield positive production cost savings. Without an economic benefit (and without a NYISO system reliability need), IPPNY asserts that there is no economic justification for the project.

Like IPPNY, Cross Hudson states that the HTP project will not produce benefits commensurate with its costs. Cross Hudson reviewed the Charles River Associates study and it states that the project costs are many times greater than the production cost savings in New York. Cross Hudson does not see how any such uneconomic project can serve the needs of the electric system economy or advance and contribute to the public interest.

In response to IPPNY and Cross Hudson, HTP characterizes the parties' arguments as collateral attacks on NYPA's decision to enter into a contract with HTP. According to it, no such attacks should be entertained. HTP also believes that the cost/benefit analysis and economic issues presented by various parties do not pertain to a merchant-developer certification proceeding. Instead, it suggests that such analyses should apply only to franchised, retail utility companies and HTP should receive a certificate recognizing the reliability benefits the facility will

provide. HTP also asserts that its facility will produce net savings for NYPA customers whether or not it produces any statewide production cost savings. Overall, HTP believes that IPPNY is improperly seeking to use this proceeding to protect the market position of its members who operate in Zone J. For its part, HTP supports the regional competition that its facility will provide. As to IPPNY's claim that less than half of the facility's capacity will be available, Staff notes that its final figures (its 40-year estimates of benefits between $744 million and $911 million, and $716 million of costs) were adjusted to reflect the reduced amount of capacity available from the HTP facility.

3. Long-Range Planning

IPPNY asserts that the HTP project is an instance of uneconomic market entry. The NYISO's buyer-side mitigation measures prevent it from entering the capacity market for the next 10 to 20 years. Nonetheless, IPPNY believes that the HTP project can harm the competitive market by artificially suppressing energy prices for existing generators, and thereby chilling development by private investors. Rather than allow the additional capacity before it is needed, or allow NYPA to pursue indirect economic benefits for its customers, IPPNY urges us to preclude HTP's uneconomic entry.

Even though HTP is not seeking to obtain cost-based rates from a public utility company, IPPNY claims that similar adverse consequences arise due to NYPA's financing the project with, it claims, taxpayer funds. IPPNY does not believe NYPA should be allowed to use its taxpayer-provided funds from governmental customers to suppress New York City energy prices to the detriment of an efficiently functioning market. Even if NYPA's motives are well intended, IPPNY asserts that our decision should rely on the analysis which shows no need, no economic

justification and no benefit to be had from the HTP project to warrant its certification.

In response, HTP objects to IPPNY's efforts to use this proceeding to protect its members' market position. Rather than protect them, HTP urges us to accept NYPA's action, taken in cooperation with its governmental customers, which addresses their future power needs by obtaining access to new markets. HTP states that NYPA, and its customers, are sophisticated purchasers; they are not captive customers who require our protection. Contrary to IPPNY's assertion that the HTP project disrupts the competitive market, the Applicant insists that its proposal is not anticompetitive. HTP states that long-term contracts for the purchase and transmission of electric capacity and energy are not *per se* anticompetitive and NYPA is entitled to enter into such arrangements.

The Applicant insists that the HTP facility will increase interregional competition and it argues against isolating NYISO Zone J from such competition. Staff also notes that the addition of the HTP facility, contrary to IPPNY's assertion, will contribute to and improve the competiveness in the transmission-constrained New York City electricity market.

Air Emissions

DEC provided in this case the testimony of its Director of the Bureau of Air Quality Planning, Robert Sliwinski. Mr. Sliwinski is responsible for air quality planning efforts in the State, including the development of the state implementation plans for meeting national ambient air quality standards (NAAQS). Mr. Sliwinski testified concerning the potential for the HTP facility to increase sulfur dioxide and oxides of nitrogen emissions in the PJM region that can adversely affect air quality in New York. He stated that additional emissions upwind of New York can impede efforts here to attain the NAAQs for ozone and

particulate matter. According to DEC, the electric generation mix in the PJM region relies on coal as its fuel source for 55% of the electricity it produces. In contrast, only 13% of the electricity produced in New York comes from a coal fuel source. DEC also reports that electric generators in Pennsylvania and Ohio emit far more nitrogen oxides and sulfur dioxide than are produced in New York.

DEC obtained its air emissions data from DPS Staff (and others) who used a General Electric Multi-Area Production Simulation (GE-MAPS) computer software, electric system simulation tool. GE-MAPS is an industry-recognized electric system planning/analysis tool that relies on numerous detailed inputs, including forecasts of electric demand, fuel prices, generating unit characteristics (i.e., heat rates, forced outage rates, planned outages and emission rates). Using GE-MAPS, DPS Staff simulated the commitment and dispatch of generating units in the area it studied and arrived at a least-cost solution, subject to the transmission limits existing on the bulk transmission systems. Thus, DPS Staff obtained an estimate of the total emissions for the study area for the year 2013.

DEC does not, however, have complete confidence in the GE-MAPS results it was provided because they do not take into account the minimum oil burns required for oil-fired electric generators in New York City that are kept on stand-by to serve in the event of a natural gas supply interruption. Nonetheless, according to DEC, the HTP facility can increase sulfur dioxide emissions by as much as 6,589 ton/year and nitrogen oxide emissions by as much as 221 tons/year. DEC maintains that these results indicate that the coal-fired electric plants in Pennsylvania, and elsewhere in the PJM region, would provide electricity on the HTP facility. According to DEC, the pollution attributable to the HTP facility is equivalent to the emissions

from two new 660 MW coal-fired electric plants operating at 85% capacity.[38]

DEC argues that the PJM region emissions are currently contributing to New York City's non-attainment for ozone and particulate matter. Were PJM emissions to increase, DEC would anticipate further detrimental impacts in New York – additional ozone and fine particle formation, decreased visibility and acid deposition. Given New York City's non-attainment for nitrogen oxides and sulfur dioxide, DEC is opposed to any additional contributions and further non-attainment related to the HTP facility.

HTP admits that the proposed facility can alter regional air emissions. It also acknowledges the electric system simulation results for the PJM and NYISO regions for the year 2013 with the inclusion and exclusion of the HTP facility. Overall, HTP considers the predicted increase in emissions to be negligible.[39] It also observes that the actual air emission levels in 2013, and thereafter, will depend not only on how NYPA uses the facility but also on changes occurring in electric system demands, technology and governmental mandates.

NYPA also considers the emissions attributable to the HTP facility to be very small and believes they will decline in time. Addressing nitrogen oxides, sulfur oxides and carbon dioxide emissions, NYPA states that the amounts predicted for 2013 are "vanishingly small" or a "miniscule increase" as a statistical matter, given the potential range of error and the complexity of the computer model analysis.

DPS Staff also acknowledges that the HTP facility can alter regional air emissions. Like HTP, it has examined the

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[38] Tr. 1318.

[39] Exhibit 49, showing a 0.06% increase in nitrogen oxides, 0.49% increase in sulfur oxides and 0.18% in carbon dioxide.

computer simulation results for 2013 and the amount by which nitrogen oxides, sulfur oxides and carbon dioxide can increase due to the HTP facility.[40] According to the DPS Staff witness, with the HTP facility operating, lower-emission electric generation units in New York will be displaced by higher-emission electric generation in the PJM region. In New York, emissions would decrease; however, the combined amount of emissions in the PJM and New York regions would increase in all three categories.[41] Nonetheless, DPS does not place much stock on the one-year results for 2013 because, in the future, imported energy is expected to be produced with lower-emitting sources, due to the addition of emission control technologies and the retirement of high-emitting resources that are not reflected in the results for 2013. Given the 50-year, or more, useful life for the HTP facility, DPS Staff believes the facility is capable of delivering cleaner energy sources in the long run.

HTP asserts that its facility conforms to the State's long-range plan for transmission facility expansion. Pointing to provisions of the 2009 State Energy Plan, HTP states that the Plan recognizes the benefits of a controllable electric transmission cable between New Jersey and New York City. HTP also states that the Plan recognizes that regional electric system ties are needed to realize the economic potential of interregional cooperation.[42] HTP notes the delivery of wind energy among the benefits to be obtained from having stronger interregional ties.

DEC disagrees with HTP. It provided testimony from a Senior Environmental Engineer in its Office of Air Resources,

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[40] DPS Staff states the net increase in these pollutants could be 221 tons of nitrogen oxides, 6,589 tons of sulfur oxides and 485,058 tons of carbon dioxide, respectively 0.46%, 10.07% and 1.13% of the electric generation emissions in New York in 2008.

[41] Tr. 870.

[42] Tr. 400-01.

Climate Change and Energy, David Gardner. Mr. Gardner examined the air emission modeling results for the HTP facility operating in the year 2013 showing that the facility may increase carbon dioxide emissions by 485,058 tons/year. This may represent as much as a 1.1% increase in the total carbon dioxide emissions in the electric generation sector in New York.[43] From this, Mr. Gardner believes that the HTP facility is contrary to the State's long-range plans.

DEC asserts that the State Energy Plan does not support the HTP facility and notes that the Plan contains provisions recognizing the advantage of interconnections with Quebec and Ontario for hydropower and the advantage of eastern interconnections to access offshore wind power. However, according to DEC, none of the Plan's provisions support PJM interconnections, due to that region's reliance on coal-fired electric generation. DEC also asserts that the Plan favors in-state electric generation over any PJM interconnection because domestic renewable energy and natural gas supplies can be used to displace fossil fuel unit emissions and improve public health and the environment. Importing electricity from PJM, according to DEC, detracts from the development of clean energy resources, does not promote end-use energy efficiency, and competes with the importation of electricity from other areas. Addressing provisions of the Master Electric Transmission Plan for New York City (presented in this case by NYC EDC), DEC states that even the City's long-range plans favor in-city generation over the HTP facility.[44]

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[43] Mr. Gardner also stated that this amount of carbon dioxide is equivalent to the amount of emissions from 85,000 cars in one year or the emissions of a coal-fired electric generation facility burning over 200,000 tons of coal in a year.

[44] Exhibit 22, pp. 11 and 20.

DPS Staff differs with DEC. It asserts that the HTP facility is consistent with the State Energy Plan and the City's Master Electric Transmission Plan. According to Staff, the State Plan takes a long-range view of energy use and available resources. It considers electric system reliability, economic competitiveness and environmental policy objectives. Staff also states that the long-term modeling of the electric system used for the State Plan relied on increased imports of electricity to meet energy needs. Staff believes that the HTP facility can provide the needed imports, improve electric system reliability, contribute to resource diversity, and lower energy costs in the New York City load pocket.

In opposing the HTP facility, DEC also asserts that it is contrary to Executive Order 24 which calls for an 80% reduction of greenhouse gas emissions across all economic sectors by the year 2050. According to DEC, the operation of the HTP facility would make this goal harder to achieve and it would represent a step backwards.

In response, NYPA states that it is not possible for the HTP facility to violate the Executive Order because the means for achieving an 80% reduction in greenhouse gas emissions has not been determined or specified. NYPA states that a Climate Action Council has been established to study this matter and to present policy options for further consideration. While the options remain outstanding, NYPA believes it is not possible for DEC to assert any violations of Executive Order 24.

In its reply to NYPA, DEC stands by its statement and insists that an 80% reduction in greenhouse gas emissions by 2050 can only be made more difficult by the HTP facility providing a New York market for coal-fired electric generation plants located in the PJM region.

Alternate Upland Routing

In support of its route for the transmission facility, HTP states that it chose properly-sized and available substation and converter station locations in New Jersey and New York, and it selected the most feasible path for an electric conductor between the terminals. HTP points out that the Con Edison West 49th Street Substation is a good terminus in Manhattan for several reasons, including its proximity to the available substation in the PJM region, its accessibility for an electric cable landfall, the substation's transfer and expansion capacity, and the minor extent to which the environment and the public will be disturbed by the construction and operation of the facility.

HTP asserts that a water route is the best way to reach the West 49th Street Substation from New Jersey given the scarcity of available land corridors and the difficulty to perform construction in congested urban areas without inconveniencing vehicle and rail traffic. HTP states that a land-based route would be longer and more expensive and may not be feasible. According to the Applicant, the submarine route it selected is the least disruptive to aquatic resources, water quality and navigation. Of nine potential landfall locations on Manhattan, the one between Piers 92 and 94 minimizes potential impacts to a cruise ship terminal and avoids the Hudson River Park.

Originally, for the upland route starting at landfall between Piers 92 and 94, HTP proposed to go east on West 52nd Street, south on 11th Avenue, west on West 51st Street and south on 12th Avenue to the entrance of the West 49th Street Substation. However, in March 2009, HTP modified its upland route and proposed, instead, a hairpin turn (180 degree bend) on West 52nd Street returning to 12th Avenue and going south to the West 49th Street Substation. This modification reduced the length of the route and eliminated disruptions to 11th Avenue, West 51st Street

and a portion of West 52nd Street. HTP's upland route is opposed by DPS Staff; it is supported by NYC Parks.

DPS Staff believes that an alternative is needed to minimize adverse impacts to structures and businesses located on West 52nd Street and 12th Avenue and to improve vehicular and pedestrian use of the roads. Staff would eliminate the hairpin turn on West 52nd Street and have the HTP facility enter DeWitt Clinton City Park, located between West 52nd and 54th Street, and 11th and 12th Avenue. Along 12th Avenue, Staff would place the HTP facility in the western-most, northern-bound traffic lane rather than under the east sidewalk on 12th Avenue. According to Staff, its alternative would provide additional room for the directional drilling operations and storage of drilling materials. It would not result in any permanent loss of flora or fauna, and it would allow for continuous operations that would speed up construction and thereby reduce the project's overall impacts.

1. Proximity to Buildings and Structures

From its review of the detailed plan and drawings for the HTP facility, DPS Staff has concerns about the transmission facility being within six feet of the buildings located on the south side of West 52nd Street and within seven feet of the buildings on the east side of 12th Avenue. Rather than under the 12th Avenue sidewalk, Staff believes the HTP facility should be located in the western-most, north-bound traffic lane to avoid potential impacts to the buildings, businesses and pedestrians on 12th Avenue.

On West 52nd Street, Staff is also concerned about potential damage to foundations during the project's open-trench activity. Staff proposes a survey and inspection be performed by

HTP of the structures' existing condition.[45] HTP accepts DPS Staff's condition and commits to providing an "existing conditions" survey.[46]

2. Pier 94 Redevelopment

New York City has granted its approval for the redevelopment of Pier 94, including a head house building and the exhibition and convention space located on Pier 94. Staff is concerned about the HTP facility's land fall between Piers 92 and 94 remaining separate from the pier's underground structural support. According to Staff, HTP has not adequately addressed this concern. Staff recommends certificate conditions requiring documentation in the EM&CP for the horizontal directional drilling (HDD) operation and cofferdam installation showing that HTP consulted with NYC EDC and is maintaining a proper separation between the HTP facility (and its construction activity) and the pier, the pier head structures and associated infrastructure. Also, Staff proposes that the EM&CP show that the design engineering for the facilities in close proximity to Pier 94 conforms with the applicable code and design criteria required by New York City, New York State and any other applicable electric safety standards and codes. HTP accepts DPS Staff's proposed conditions and commits to keeping a proper separation between its facility and the Pier 94 structures.[47]

3. Noise Impacts

DPS Staff believes that HTP has underestimated the amount of construction noise that will occur at West 52nd Street and 12th Avenue. It also criticizes the Applicant's witness for

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[45] Staff has re-written Environmental Management and Construction Plan (EM&CP) Condition No. 24 (b) to include an "existing conditions" survey.

[46] HTP Reply Brief, p. 14.

[47] Id.

not providing an analysis of the site conditions and the specific facilities HTP will use and construct.

Staff believes that subsurface bedrock will be encountered when HTP excavates for its precast fluid vault (70 feet long, 12 feet wide and 12 feet in height) and its precast transition pit (60 feet long, 10 feet wide and 10 feet in height). On average, HTP will have to excavate to a depth of 21.5 feet for the fluid vault and Staff assumes an average depth of 13 feet for the transition pit. At these depths, and given a geotechnical report that indicates bedrock with a shallow unconsolidated overburden at this location, Staff believes that a significant amount of bedrock will be encountered, exceeding the expectations of HTP's noise witness. The removal of over 950 cubic yards of material will produce truck traffic noise and will extend the duration of the noise impacts for occupants of West 52nd Street and the users of DeWitt Clinton Park.

HTP's witness did not visit the proposed construction site and he did not specifically analyze the revisions that HTP has made to the project since it first filed its application. Staff criticizes him for not being sufficiently familiar with the project to address its noise impacts. In addition to not being aware of the bedrock outcroppings and the amount of excavation required, Staff criticizes the Applicant's witness for not considering sufficiently the proximity of construction to the structures and buildings on West 52nd Street and 12th Avenue. Staff believes that the witness should have updated his noise analysis when HTP revised its proposed route for the upland cable facilities.

To mitigate the adverse impacts related to construction noise, Staff recommends that the Applicant use appropriate noise mitigation, including sound barriers, vibratory hammers for the cofferdam sheet piling installation, and other measures to

minimize noise. Staff proposes that HTP develop a construction noise mitigation plan for excavation activity and horizontal direct drilling for submission with the EM&CP.

HTP defends the noise analysis performed by its witness and states that he considered the existing conditions and provided the results of the noise measurements that were taken. The ambient noise at this location is in a range considered to be very noisy for an urban residential area. The noise analysis discussed the construction activity that will create noise and it identified the various pieces of equipment and their noise profiles. HTP states that it will use proper equipment and noise barriers, and it will comply with the noise limits and regulations imposed by New York City. By complying with the City's noise regulations, HTP believes that it will minimize its noise impacts properly. HTP states that construction will be limited to weekdays between 7:00 a.m. and 6:00 p.m. and noise will not exceed 85 dBA at 50 feet. As Staff has requested, HTP states that it will provide a construction noise mitigation plan prior to construction.

4. Access to City Parks and Local Businesses; Pedestrian and Vehicular Traffic

According to DPS Staff, construction of the HTP facility can adversely affect access to the DeWitt Clinton Park at its entrance on West 52nd Street. Also, Staff is concerned about construction adversely affecting the crosswalks on 12th Avenue that provide access to the Hudson River Park and the Clinton Grove Park. Further, Staff states the business entrances on 52nd Street can be obstructed and customers may be deterred.

Staff believes that pedestrian traffic on the west side of 12th Avenue, between West 50th and 52nd Streets, can only be maintained, during construction, by a traffic lane closure and a barricaded walkway located in the eastern traffic lane of 12th Avenue. At the West 49th Street Substation, (between 49th Street and 50th Street) Staff believes pedestrian traffic will be blocked

and pedestrian access across 12th Avenue (at 50th Street and extending to near Pier 92) would also be blocked during a specified construction period, thus temporarily impeding access to the Hudson River Park.

NYC Parks is opposed to Staff's routing alternative that enters the park. It does not believe it is necessary to enter the park to minimize disruptions to vehicular and pedestrian traffic and impacts to structures on West 52nd Street and 12th Avenue. According to NYC Parks, HTP has agreed to certificate conditions recognizing the Commission's ongoing jurisdiction and the local permit requirements and the City's revocable consents. NYC Parks is satisfied with HTP's assurances that it will properly coordinate the construction activity with municipal agencies and protect the City's critical infrastructure sufficiently so it need not enter the park.[48] NYC Parks insists that construction in the park would significantly disrupt its proper use and detract from its enjoyment.

An Assistant Park Commissioner for Planning and Parklands testified that the DeWitt Clinton Park is an important resource for local residents and other park patrons. It has the only full-size baseball fields on the west side of Manhattan south of 96th Street. Within a mile of the park, there are only five other playgrounds. The park's features include handball and basketball courts, a spray-shower play area and a free-play area. According to NYC Parks, noise, dust, construction and open-cut trenching in the park would adversely affect park users and it could harm the park's mature trees. NYC Parks is also concerned about the permanent installation of the HTP facility in the park which could limit and constrict future modifications to the park's features. For these reasons, NYC Parks will not provide its

[48] In particular, NYC Parks points to Exhibit 26, Conditions 4, 6, 14 and 16.

authorization for construction in the park and it would strongly oppose any proposal to alienate this parkland. NYC Parks doubts that the Commission has sufficient authority to grant HTP the right to occupy park property absent legislative action.[49]

HTP also opposes Staff's alternate, upland route. It states that construction in DeWitt Clinton Park is not legally permissible absent action by the State Legislature allowing the alienation of this parkland. Nor does HTP see any need or reason to enter the park. If the Applicant must wait for the State Legislature to approve its use of the DeWitt Clinton Park, HTP doubts that the project can proceed on schedule and it would procure project financing under such circumstances. HTP fears that a delay and higher costs would cloud the project and undermine it.

With respect to Staff's proposal to locate the HTP facility in the western-most, north-bound lane of 12th Avenue, the Applicant states that it has met with representatives of the State Department of Transportation and discussed the route on 12th Avenue. It was discouraged from using the travel lane and was encouraged to use either the center median or the eastern sidewalk. The median was rejected due to worker safety concerns (with attending costs and time delay considerations) and the additional complexity that could be avoided by working on the east side of the street. HTP states that the New York City Department of Transportation also prefers that the 12th Avenue route be in the eastern sidewalk.

Addressing the impacts on West 52nd Street and 12th Avenue, HTP states that only three buildings on the western end of West 52nd Street are subject to the most disruptive construction

[49] Matter of TransGas Energy Sys., LLC v. New York State Bd. On Elec. Generation Siting & Envt., 65 A.D.3d 1247 at 1253 (2d Dep't, 2009), leave to appeal denied, 13 N.Y.3d 715 (2010)

activity and there is a limited amount of business activity on 12th Avenue at this location. HTP states that it will adhere to New York City's street excavation regulations, its uncovered trench will not be left unattended, and access requirements will be met. Along 12th Avenue, the east sidewalk between 49th and 50th Streets, and the 50th Street crossing, will be closed to pedestrians for a time but pedestrians will nevertheless be able to walk up and down the street and be able to cross it. With respect to the vehicular traffic on 12th Avenue, HTP explains that its construction activity is expected to last for ten weeks and only one travel lane will be closed during this time.

As to 52nd Street, HTP points out that an independent inspector will enforce certificate condition requirements to ensure that traffic is not disrupted and pedestrians can use the street. HTP insists that it will adhere to it engineering drawings and the work zone control plan to maintain the required travel lane for vehicles and walkway for pedestrians. HTP states that it has carefully designed the hairpin turn in order to keep 52nd Street open and it is confident that it can do the work and meet the City's traffic control requirements.

Addressing the city parks, HTP points out that there are six entrances to the DeWitt Clinton Park and its construction will only affect one entrance and a 12th Avenue crosswalk. It admits that construction operation and noise will be in close proximity to the park. However, HTP considers these impacts acceptable and states that they are far less than the impacts that Staff's routing alternative would impose on the park. HTP insists that the Staff-proposed alternative route is not superior to the Applicant's proposed route; HTP believes the Staff alternative is not available given the positions taken by NYC Parks and the City and State Departments of Transportation.

STATUTORY FINDINGS

PSL §126 states the requirements for our decision in this case:

> The Commission shall render a decision upon the record either granting or denying the application as filed or granting it upon such terms, conditions, limitations or modifications of the construction or operation of the facility as the Commission may deem appropriate. If the Commission denies the application, it shall file, with its order, an opinion stating in full its reasons for the denial. Except as provided in subdivision two of this section, the Commission may not grant a certificate for the construction or operation of a major utility transmission facility, either as proposed or as modified by the Commission, unless it shall find and determine:
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> a. the basis of the need for the facility;
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> b. the nature of the probable environmental impact;
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> c. that the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations including but not limited to, the effect on agricultural lands, wetlands, parklands and river corridors traversed;
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> d. in the case of an electric transmission line, (1) what part, if any, of the line shall be located underground; (2) that such facility conforms to a long-range plan for expansion of the electric power grid of the electric systems serving this State and interconnected utility systems, which will serve the interests of electric system economy and reliability;
>
> e. [inapplicable to an electric transmission line];
>
> f. that the location of the facility as proposed conforms to applicable state and local laws and regulations issued thereunder, all of which shall be binding upon the Commission, except

> that the Commission may refuse to apply any local ordinance, law, resolution or other action or any regulation issued thereunder or any local standard or requirement which would be otherwise applicable if it finds that as applied to the proposed facility such is unreasonably restrictive in view of the existing technology, or of factors of cost or economics, or of the needs of consumers whether located inside or outside of such municipality;
>
> g. that the facility will serve the public interest, convenience and necessity . . . .

Need

As we recently observed in the case involving the Bayonne Energy Center, the need for a transmission facility is not simply determined with reference to the NYISO's most recent Reliability Needs Assessment and its base case assumptions. For our purposes pursuant to PSL Article VII, need is determined by examining numerous factors, including system reliability benefits, economic benefits for customers and the State, and the achievement of public policy goals.[50] First, we find that the facility is needed to provide a useful, bulk transmission connection to the PJM region – a regional interconnection that will improve electric system reliability and promote network security. The bulk transmission system that enters New York City from all directions is constrained, such that currently 80% of the generation to meet peak New York City energy requirements must be located within the City to serve its load reliably. Beyond any reasonable doubt, the HTP facility can be used productively to alleviate the existing constraints on the transmission system serving New York City.

For no good reason other than the historical circumstances which led to the development of the electric industry within the confines of state boundaries, downstate New York has many transmission ties to the north but relatively few

[50] Case 08-T-1245, supra, Order Granting Certificate, p. 13.

either to the east or west of the State. Until recent times the weak links to the neighboring regions could be accepted. However, such an approach is unlikely to succeed in the future and the move has begun, in recent years, to add ties to Connecticut and to New Jersey to serve the greater metropolitan area. Now, in our view, is not the time to cease this approach and the HTP facility is not the type of transmission facility we should discourage. It can be used as an additional in-city capacity reserve and it would contribute to meeting in-city locational capacity requirements. It will be used to import economic energy from the PJM system.

While the parties' briefs in this case do not highlight, as they should, the network security attributes of the HTP facility, we are well aware from both the application, and the testimony provided by two DPS Staff witnesses, that the facility's high voltage direct current electric conversion equipment located in New Jersey makes for a fully controllable transmission interconnection that is capable of isolating itself from a system disturbance. Were a blackout or a voltage collapse to occur outside of New York City, it would not enter the City on the HTP facility. While older transmission facilities, lacking such conversion equipment, do not provide such protection, it is a useful system improvement to construct bulk transmission interconnections in this manner.[51]

System reliability is enhanced by the HTP facility, as several parties have addressed in their testimony and briefs, by providing an additional source of supply from a neighboring electric system. Examined systematically, there are two real possibilities in the future that warrant our careful consideration in rendering a decision to certificate the HTP facility. It is indeed possible that movement and action will be taken to retire or repower the old, in-city units that are heavy polluters as the

[51] Tr. 1417-18.

State begins to take ever more aggressive steps to improve air quality and to combat the adverse effects of climate change.[52] In this emerging context, the HTP facility could be a useful resource to assist in the transition to newer and cleaner generation facilities within New York City. Another serious possibility involves the Indian Point nuclear power facilities located in Westchester. A segment of the State's population remains deeply concerned about the safety of having a nuclear energy facility as close as this one is to a major metropolitan area. Indeed, as a party in the Nuclear Regulatory Commission's relicensing proceeding for the Indian Point facilities, the State has opposed the extension of the plants' operating licenses. Also, environmentalists remain active in pursuing updates and modifications to this facility to lessen its current impacts on the environment. We find that the HTP facility will assist in maintaining system reliability in the event that one or both of the Indian Point plants close.

Further, the HTP facility helps to improve Consolidated Edison's operating flexibility at the 49th Street Substation and helps to reduce electric system stress in midtown Manhattan. Consolidated Edison explained the local system benefits on the record and we are fully aware of the complexity and unique requirements of serving this particular urban location.

In reaching our need findings in this case, we have given due consideration to the economics of this project by examining its costs and benefits. We find that New York City consumers can expect to obtain savings as a result of the

[52] While issues pertaining to environmental justice for local neighborhoods in close vicinity to electric generation stations were not raised on the record, we nevertheless believe that the plight of such communities near the older, in-City generation units can only be improved by actions that reduce their operation and their emissions.

operation of the HTP facility by importing lower cost power from PJM. In addition, the electric energy available from this facility can lower the in-City market clearing prices during the unconstrained hours during which competitive market forces establish the price for such facilities in the New York City energy market and this benefit inures to customers. Staff has estimated that these benefits could be as much as $1.763 billion. Also, the economic risks of this project will not be borne by public utility ratepayers. Further, we find that the HTP facility sufficiently passes the "production cost test" on the basis of the study and evaluation provided on the record by DPS Staff. The facility can be expected to provide up to $900 million, or more, in production cost savings (both for energy and capacity) during the course of its 40-year useful life as compared to its estimated cost of $716 million.

In this case, IPPNY and Cross Hudson pointed to the production cost test results shown in the Charles River Associates Study and claim that they provide a sufficient basis for denying HTP a certificate. However, we disagree and we do not find these results dispositive. We have examined this information together with the study results provided by DPS Staff concerning the direct and indirect benefits of the HTP facility. And, the DPS Staff study indicates that the HTP project costs pass the production cost test. In any event, all the cost/benefit analyses show that there are ample benefits for New York City customers arising from the operation of the HTP facility. Given these economic study results, we find that we can grant certification for the facility because the business and financial risks associated with this merchant-developer project will be borne by HTP in association with its arrangements with NYPA. Before any public utility company in New York can enter into an agreement or arrangement

with HTP to participate in this project it must seek and obtain our authorization.

Turning to IPPNY's arguments addressing the impact that the HTP facility will have on the competitive energy market in New York City, on the record before us, we can neither find that the competitive market in the City is substantially impaired by the HTP facility nor can we find that it is substantially enhanced by the facility's operation. The record simply does not allow us to make any such detailed findings; however, we do credit DPS Staff's view that as a general matter the addition of the HTP facility will contribute to and improve the competitiveness of the New York City electricity markets. In these circumstances, we find no basis for denying HTP a certificate on account of the kinds of market concerns that have been raised on the record by IPPNY.

Thus, for each of these reasons, we find that a valid and sufficient public need exists for the HTP facility — one that fully supports the grant of a certificate for this facility. Beyond this, we are aware of NYPA's statutory duty and public responsibility to provide sufficient and adequate electricity for the governmental customers in its charge. NYPA must plan for their requirements and it is responsible for providing safe and reliable service to the City of New York, the MTA and the Port Authority, among others. The record reflects the results of NYPA's energy planning process culminating in the selection of the HTP facility.

We reach our need findings in favor of the HTP facility knowing that the NYISO's base case scenario, in its Reliability Needs Assessment, shows that additional facilities (beyond those in the base case) are not required to maintain electric system reliability in the downstate region for the next decade, given the availability of existing facilities and the expected operation of this market. However, resource adequacy (which is the question

answered by the Reliability Needs Assessment base case) is not the only basis for establishing need. We have fully explained the basis for our finding a need for the HTP facility above. In the circumstances presented here, we will not compel NYPA to make use of the available market resources rather than make its independent plans for its customers' requirements. Moreover, as noted above, the NYISO's Reliability Needs Assessment recognizes alternative scenarios, including the uncertainty surrounding the Indian Point nuclear plants and the substantial likelihood of new air quality and water quality initiatives that will eliminate adverse environmental impacts from old, in-city generators. The probability of any of the alternative scenarios arising is not zero, by any means. And, prudent planning considerations indicate to us that the HTP facility is needed to provide valuable reliability assurances in the event any of the alternative scenarios were to come to pass.

Environmental Impact

In addition to addressing the need for the facility, we must determine the facility's probable environmental impacts. Putting aside, for the moment, the air emissions attributable to the generation facilities whose electricity will be carried on this transmission line, we find that the construction and operation of the transmission facility will not have any long-term, adverse environmental impacts. The facility will have only temporary and short-term impacts that are manageable and will be kept to a minimum.

To begin our environmental assessment of this project, we find that the transmission facility will be entirely underground and submerged below the Hudson River. It will not have any visual impacts after it is installed and the facility avoids wetlands, water resources and almost all of New York's terrestrial ecology features. HTP's construction practices are

designed to minimize the impacts that the installation of the facility will have on the aquatic communities and organisms it will encounter in the Hudson River. DPS Staff and DEC have developed an EM&CP for this project with the Applicant's cooperation which will ensure that the jet plowing in the Hudson River, the horizontal directional drilling transition from the river to the landfall in mid-town Manhattan, and the open trench construction on West 52nd Street and 12th Avenue will have no permanent, and only temporary, impacts in each of these locations. The record in this case fully and carefully considers the facility's probable environmental impact and we find that the HTP facility represents the minimum adverse environmental impact taking into consideration available technology and all pertinent considerations.

Among the alternatives considered in this case is the upland routing proposed by DPS Staff. Significantly, the Staff alternative neither addresses nor seeks to minimize impacts to any natural, environmental features; instead, it is offered to alter the temporary construction impacts on structures, businesses, pedestrians and vehicular traffic in the vicinity of West 52nd Street and 12th Avenue. In so doing, the Staff alternative would introduce new impacts into the DeWitt Clinton Park which we find unacceptable.

We begin our consideration of the DPS Staff upland routing alternative by observing that the Applicant will abide by all of New York City's local laws and ordinances that are applicable to the construction and operation of the HTP transmission facility. In particular, we find that HTP's commitment to comply with New York City's noise standards and its agreement to provide a construction noise mitigation plan with its EM&CP constitutes proper minimization and mitigation of the

project's construction noise in compliance with the applicable municipal standards for such activity in this urban setting.

We also find that the upland route proposed by HTP – from landfall between Piers 92 and 94, with a hairpin turn on West 52nd Street, and traveling down the 12th Avenue sidewalk – is acceptable and is a preferable route to the alternative presented by DPS Staff. With respect to Staff's proposed use of DeWitt Clinton Park, we find that entering the park may improve conditions for HTP's construction activity but any such benefit is outweighed by the adverse impacts that this alternative would impose on the park. Nor are we persuaded that Staff's alternative provides any substantial benefit or material reduction in the impacts that would otherwise be experienced by occupants and users of West 52nd Street and 12th Avenue.

DeWitt Clinton Park is a valuable, municipal resource for the sports and recreational opportunities it provides urban dwellers. In midtown Manhattan, there are few locations where they can engage in the activities that are available at this park. Before we would consider any construction activity and the placement of a transmission facility in this park, we would have to be convinced of the absolute necessity for such action which is not present here.

The building structures, businesses, pedestrian and vehicular traffic located on and traveling on West 52nd Street and 12th Avenue will all be exposed to the temporary construction activity for this facility one way or the other under the competing alternatives. It is not clear to us that the inclusion of the construction activity, and the transmission facility, within the park provides any substantial relief, or any measurable amelioration, were we to agree with Staff's proposal. We recognize that it will not be easy for HTP to make its hairpin turn on West 52nd Street, but the engineering plans indicate that

it can be done without closing the street and in full compliance with the applicable municipal requirements for construction in city streets. Therefore, with the placement of the HTP facility outside but alongside the park on West 52nd Street, we find that the project's construction impacts for its surroundings on both sides of West 52nd Street are acceptable.

With respect to 12th Avenue, the competing interests and impacts concern vehicular and pedestrian traffic, and the proximity of the facility to the structures and businesses on two city blocks. Considering the vehicular and pedestrian traffic first, we find it to be preferable at this location to avoid construction in the 12th Avenue travel lanes and roadbed which would substantially interfere with the vehicles using this significant south-to-north thoroughfare. We find that the total impact on 12th Avenue is reduced by placing the facility in the sidewalk as HTP has proposed. We recognize that the close proximity of the facility to the businesses and structures on 12th Avenue will impact their operations in the same manner that a few structures and businesses on West 52nd Street are impacted. These potential impacts provide all the more reason for the certificate we are granting to the Applicant to require its strict adherence to all applicable, municipal requirements for construction in city streets. We find that the certificate conditions that have been proposed by DPS Staff and accepted by the Applicant provide confidence that the minimum adverse impacts for this urban setting will be achieved during the construction of the transmission facility. For the reasons stated here, HTP's proposed upland route is accepted and the facility will not enter DeWitt Clinton Park and it will avoid the 12th Avenue travel lanes.

Turning to the air emissions presented by the coal-fired generation units in the PJM region, we find that they are the only negative, environmental factor we have encountered in our

examination of the HTP facility. As a consequence of granting HTP a certificate for a new, interregional transmission tie, the facility has the potential to allow more of PJM's coal-fired electricity to find its way into New York than currently enters our markets. We do not find this to be a sufficient reason to deny HTP a certificate for its transmission facility which provides a worthwhile, long-term transmission system improvement and significant electric market benefits for New York City consumers.

In discharging our obligation under the statute to consider the probable environmental impact of the proposed HTP transmission line, we take note that the DPS Staff's electric system simulation for 2013 indicates a potential overall regional increase in the production of emissions in the PJM and NYISO control areas and a decrease in the emissions expected in New York City. Specifically, as projected by the simulation, use of the HTP line in 2013 may result in an annual regional increase in emissions of approximately 0.06% (221 tons) of oxides of nitrogen, 0.49% (6,589 tons) of sulfur dioxide, and 0.18% (485,058 tons) of carbon dioxide. This would occur because of a projected increase in PJM emissions that is larger than an expected decrease in New York State emissions. As DPS Staff advises in its reply brief, it is estimated that New York State, in 2013, would experience decreases in emissions of 3.7% in oxides of nitrogen, 3.2% in sulfur dioxide, and 3.3% in carbon dioxide. NYC EDC attributes part of the decline to the prospect of significantly reducing the operation of inefficient in-city power plants with high emissions. NYC EDC asserts that this would yield substantial environmental benefits and assist the City in achieving its goals of reducing

in-city air emissions and potential reduction of operation of generating units in Environmental Justice areas.[53]

It should be noted that the simulation's projection of net increased emissions applies to the entire PJM and NYISO regions. As DEC and HTP point out, no regional transport modeling was performed to provide an analysis of the impact of these emissions. DEC stated, as a general matter, that PJM emissions are identified as a contributing factor to designation of New York City as an ozone and particulate matter non-attainment area. DEC has not suggested that the HTP line would lead to generators within PJM exceeding the limitations on their air permits. Absent analysis to relate the increased PJM emissions to its effects, the claim that the projected increased emissions would contribute to non-attainment in New York State appears to be unsupported.

DEC uses an analysis to provide its estimate of the potential emissions relating to use of the HTP line, that is based upon a comparison of the average emissions profiles in the PJM and NYISO. The fuel mix of generators on the margin exporting energy on the HTP line may use a lower emissions fuel mix that is different than the coal-intensive average PJM fuel mix. Thus, DEC's comparison may overstate the likely emissions levels resulting from the project. As noted, the 2013 simulation shows that New York State emissions go down and PJM emissions increase and that the result is a modest net change in emissions estimated for the combined PJM and NYISO areas for 2013.

We are mindful of the possibility that the actual changes in emissions over the expected 50 years or more, useful life of the facility will depend upon a number of variables and shift over time, as the two systems respond to changes in demand,

[53] NYC EDC reasons that importation of energy over the HTP line is expected to reduce the operating hours of the in-city peaking plants, many of which are located in Environmental Justice areas.

economic conditions, technologies and government environmental mandates that may well cause retirements or repowering of inefficient coal facilities. As HTP and NYPA suggest, the projected emissions for 2013, an indirect effect of new imports from PJM spot market, may become temporary as the commitment of NYPA and its governmental customers to contract, through a request for proposals process, with low carbon generators comes to fruition and results in contractual arrangements for the purchase of power delivered over the HTP line.

We find that the simulation projections indicate that, even though New York emissions would decrease, the combination of the total respective emissions for both control areas presents a risk of a modest net overall increase in the three types of emissions for the PJM and NYISO control regions. Although net emissions may increase according to the 2013 simulation, we have no clear indication that these emissions will result in probable adverse impacts on the environment or, more importantly, that this one-year "snapshot" represents a meaningful characterization of the emission changes over the 40 to 50 year life of the transmission facility.

In considering the minimum adverse environmental impact of the facility, including the state of available technology and nature and economics of the various alternatives, we find that the DPS Staff 2013 simulation and DEC arguments indicate an increase in emissions, but not necessarily a probable adverse environmental impact. We do not believe that the indicated emission results for 2013 will continue throughout the facility's useful life and we fully expect federal and regional governmental action to succeed in reducing the operation of the older, coal-fired electric facilities that are responsible for this pollution that is becoming increasingly unacceptable and intolerable.

DEC has provided a useful perspective noting New York City's current non-attainment of the NAAQs for ozone and particulate matter. It identifies the relationship between these health hazards and industrial emissions, including the emissions produced by electric generation units in New York and outside the State. New York is fully committed to reducing this pollution and is aggressively seeking emission reductions both here and in neighboring states. In this case we are asked to balance the State's interests in achieving the greatest possible reductions of sulfur dioxide, oxides of nitrogen, and carbon dioxide with its interests in a well-maintained electric energy delivery system upon which its citizens can rely.

If New York City and NYPA were doing nothing, or not enough, to help achieve the ozone and particulate matter NAAQs, we might well be inclined to encourage them to act more aggressively. However, that is not the case and there is no such need demonstrated here. We are well aware of the City's and NYPA's efforts dedicated to achieving energy efficiency and supporting renewable energy resources to counteract the ill effects of our continuing reliance on fossil fuels. By their presentations in this case, we are also aware of the City's and NYPA's serious planning efforts to provide adequately for the electricity needed to serve the greater New York metropolitan area with required municipal services. The City and NYPA have factored the need for greater energy conservation, efficiency and renewable energy in their plans and future actions, and there is no shortcoming presented here that we need to address.

We are aware of the indicated amounts of sulfur dioxide, oxides of nitrogen, and carbon dioxide emissions in the PJM region associated with the operation of the HTP facility and we find that they are not sufficiently large, in 2013, to warrant the denial of a certificate for the HTP project. We remain resolved to reduce

air pollution and adverse emissions, and to seek and obtain cleaner air through the use of the State's System Benefits Charge Programs, our Energy Efficiency Portfolio Standard and by the State's participation in the Regional Greenhouse Gas Initiative. By these and other means, adverse emissions can be addressed and effectively controlled without taking the drastic step of precluding a worthwhile interconnection with a neighboring electric region which provides transmission system security, reliability and economic advantages for New York City energy consumers. Given that NYPA should be able to obtain the benefit of lower prices for energy under federal open access policies, we should not preclude construction of a line to obtain those benefits, just because the benefits flow from generation of energy under emissions not precluded by the laws of the emitting states.

As for the opportunity DEC has identified to eliminate an incremental contribution to the ambient concentrations of oxides of nitrogen and sulfur dioxide by refusing HTP a certificate and by instead pursuing the re-powering of various New York City generation units to make their emissions cleaner, we find that DEC presents a false choice. We support and favor the re-powering of the old generation units in the City but not at the expense of adding a new transmission facility to the grid to improve system security, reliability, flexibility and diversity. Both actions are desirable and they are not at odds.

Thus, we do not discount, avoid, ignore or dismiss the concerns DEC has presented on the record. In recognizing the significance of the issues raised by DEC, we are unwilling to compromise this opportunity to improve the electric network design serving New York City. We favor the transmission network improvement and contribution that the HTP facility can provide to serve municipal customers. NYPA selected HTP, New York City

favors its proposal and we consider the transmission facility to be acceptable.

Long-Range Plan

Turning to the State's long range plan for the expansion of the electric power grid of the electric systems serving the State, we recognize that the 2009 State Energy Plan (SEP) provides five policy objectives and presents five strategies for achieving its objectives. The objectives, as they pertain to the energy section, are: to assure a reliable energy system; to reduce greenhouse gas emissions and avoid climate change; to address energy affordability for residents and businesses with rising energy bills; to reduce the health and environmental risks associated with energy production and use; and, to develop in-state energy supply resources to improve the State's energy independence and fuel diversity.

To accomplish these objectives, the SEP presents five strategies: to produce, deliver and use energy more efficiently; to support the development of in-state energy supplies; to achieve investments in effective and cost-effective Smart Grid technology and transmission upgrades to exploit upstate wind, Canadian imports and new nuclear capacity; to stimulate clean energy innovations; and, to engage local government and communities, neighboring states, Canada and the federal government in the effort needed for the State to achieve its policy objectives.

As we read the SEP, it neither supports the HTP project specifically nor takes direct odds with this interstate transmission facility. To its credit, we find that the HTP facility will help to assure a more reliable energy system for New York City and it will tend to make electricity more affordable for City residents and businesses. The HTP facility is entirely consistent with these SEP objectives. However, the facility is less consistent with the SEP in other respects inasmuch as it does

not, by itself, reduce greenhouse gas emissions nor does it improve, by itself, the health and environmental risks associated with energy production. Further, the HTP transmission facility does not serve to improve the development of in-state supply resources. Thus, the HTP facility is neither fully consistent nor entirely inconsistent with the achievement of the SEP's objectives. Undoubtedly, the facility will serve the interests of electric system economy and reliability. In addition, we find that the HTP facility is consistent with a prudent understanding of the NYISO's Reliability Needs Assessment.

Local Laws and Regulations

HTP has not sought to obtain any waivers of New York City's local standards and requirements that are applicable to the proposed transmission facility. Accordingly, we find that the facility will conform to applicable state and local laws and regulations.

Minimum Adverse Environmental Impact and the Public Interest

PSL §126 requires that we render multiple findings and it calls upon us to balance fairly among competing interests to achieve the minimum imposition of adverse environmental impacts, considering the state of available technology and the nature and economics of various alternatives. We find that the HTP facility can be constructed and operated consistent, and in harmony, with the achievement of the State's long range energy objectives. New York will continue to take strong action to encourage the operators of generators in New York and in the PJM region to reduce their emissions. Moreover, by allowing New York to be better interconnected with the PJM region, we do not detract from the State's efforts to develop and use renewable energy resources from wherever they can be found and brought to the State's major urban areas. We find that certification of the HTP facility is consistent with various objectives of the State's long-range

planning process and it is not contrary to the achievement of the policy objectives it does not address.

It is clear to us in this case, and in other recent Article VII proceedings, that there is a strong need in the downstate area to establish better interconnections with our neighboring states to the east and west to provide citizens better access to generation resources and stronger transmission ties than those existing previously. We note that this is not the first interstate, electric transmission facility to receive a certificate from the Commission. In recent times, the Commission has granted certificates for facilities crossing Long Island Sound and running from New Jersey to Long Island.[54] In New York City, the Commission has granted certificates for two electric transmission facilities extending to New Jersey.[55]

We believe that the certificates granted for the Cross Sound and the Neptune projects provided valuable electric system improvements and reliability for energy consumers on Long Island and that those actions served the public well. Similarly, we find that New York City would benefit from stronger ties to the electric system in northern New Jersey. In this case, NYPA sponsors and NYC EDC supports the HTP project to improve the design of the City's electric network and grid, and to serve their long-term plans for safe, adequate and reliable electricity for governmental uses and purposes.

In the four previous cases, the Commission reviewed settlement agreements and adopted the joint proposals that were supported by the parties to the respective proceedings. While no Article VII proceeding is a simple matter, the parties in the

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[54] Case 00-T-1831, supra (Cross Sound Cable Company); Case 02-T-0036, supra (Neptune Regional Transmission System LLC).

[55] Case 01-T-1474, supra (PSEG Power Cross Hudson Corporation); Case 08-T-1245, supra (Bayonne Energy Center, LLC).

previous cases were able to eliminate controversies and they demonstrated a true willingness to resolve contentious matters and their differing views. Their efforts provided invaluable assistance to the Commission.

This case, involving the Hudson Transmission Partners, is no more or less complicated than the four previous ones. It differs from them only in that it does not present any agreement, or joint proposal, from the parties to the proceeding. Instead, we have thoroughly considered all the contested issues presented to us and we have carefully examined the evidence and the parties' briefs to arrive at our decision to grant a certificate to the Applicant. In conclusion, we find that the HTP facility will serve the public interest, convenience and necessity.

As addressed below (in our discussion of a proposed certificate condition concerning "cost-of-service based rates"), our public interest finding in this case is based on and subject to the Applicant's and the record's representations that: (1) the reason for NYPA's original Request for Proposals (RFP) was to provide NYPA means to meet the anticipated needs of its downstate government customers; (2) NYPA selected HTP for this purpose; and (3) HTP and NYPA intend to enter into a contract to that end. These representations lead us to the logical implication that the transmission facility will be financed, built and operated based on a contract between HTP and NYPA without ratepayers of public utilities subject to Commission rate jurisdiction bearing the project's development, construction or operating risks. If such a contract between HTP and NYPA does not materialize or HTP relies upon an alternative or additional means of financing the project which may undermine our finding that the ratepayers of public utilities will not bear the project's risks, we would have to reconsider our public interest finding and may need to reopen the record in this case. In this event, as a condition of this

certificate, HTP would have to provide the Commission notification of the alternative financing method and explain how it remains consistent with the basis for our public interest finding or is otherwise subject to Commission review in the exercise of its jurisdiction over public utility transactions.

We use this condition instead of the requirement in the proposed certificate condition 3 that HTP and NYPA execute a contract before commencing site preparation and construction of the Transmission Facility. The condition stated here provides adequate protection to ratepayers subject to Commission rate jurisdiction, without creating undue constraints and potential ambiguity in light of the qualification of the Transmission Facility as a 320 MW line for the purposes of transferring firm capacity under NYISO Installed Capacity (ICAP) rules.

CERTIFICATE CONDITIONS

Exhibit 83 contains the certificate conditions for the HTP facility as advanced by the Applicant. It also contains those provisions proposed by DPS Staff to which the Applicant does not object. Exhibit 35 contains the certificate conditions as Staff would have them, subject to several subsequent revisions Staff has made. Below, we consider the differences between the parties and provide our findings and determinations on the contested conditions and provisions.

Inspection Access for Facilities Located in New Jersey

HTP distinguishes between the "HTP Project" – the term it uses for the entire transmission tie without regards to the location of any specific plant or equipment – and the "HTP Transmission Facility" – its term for the portion of the project physically located in New York.[56] With respect to the plant and equipment in New Jersey, such as the back-to-back converter

[56] HTP's Initial Brief, p.2, n.1.

station and the underwater cable, DPS Staff insists that they be subject to our review and examination.

In support of its position, a Staff engineering witness testified that access to the facilities in New Jersey is necessary and Staff must be able to review the entire project.[57] Staff insists upon unfettered access and the right to inspect the New Jersey portion of the transmission facility to ensure that all construction and maintenance is performed with due diligence. Only thus does Staff believe we can ensure that the project is constructed and maintained in a safe and reliable manner. Accordingly, in various certificate conditions and provisions, DPS Staff prefers that we make reference to the entire "HTP Project"; it is opposed to HTP's proposal to use the more restrictive term.

HTP states that it does not take issue with Staff's concerns or its need to review the entire project; however, rather than use a broadly defined and all-inclusive term in the certificate conditions and provisions, HTP would prefer that we narrowly craft the means to address Staff's concerns. But Staff disagrees. According to it, the use of a restrictive definition in the certificate conditions would not ensure physical access to the facilities located in New Jersey.

While we assert no direct authority over any HTP property, plant or facilities located outside New York and in a neighboring state, to ensure the safe operation of the New York portion of the transmission line, and a well-integrated approach for the entire facility, we agree with Staff that it should have the ability to inspect and examine HTP's out-of-state facilities to the same degree and no differently than it would be able to inspect and examine HTP's facilities located in New York. For this reason, we accept and adopt the certificate condition terms advanced by Staff that avoid the distinction that HTP would impose

[57] Tr. 1427.

that could impede proper oversight of the HTP facility by state inspectors operating out of New York.

Cost-of-Service Based Rates

DPS Staff considers the HTP facility to be a merchant project and, as such, has no objection to HTP receiving a certificate as a market developer. However, if HTP were to change its business model and were to seek cost-of-service rates, from either a federal or state regulatory body, Staff is concerned about the potential transfer of the project's risk to New York retail market ratepayers for which we are responsible. If a regulated, public utility company in New York were to enter into a contract for the energy or capacity that the HTP facility delivers, Staff believes that the utility company's involvement and the means used to provide cost recovery should be subject to our review and approval.

HTP opposes Staff's proposed condition which, it states, would invalidate the certificate of environmental compatibility and public need were HTP to recover costs in any cost-of-service based rates. HTP believes that the Staff-proposed condition is unnecessary, overly restrictive and in conflict with FERC's powers.

HTP points to FERC's exclusive authority to set rates for the transmission of electric power at wholesale and it points to FERC's broad authority to regulate practices that affect wholesale rates. HTP states that it would be improper to impose a certificate condition that forces the Applicant to abandon its right to seek and obtain rate relief available from FERC. By interfering with FERC's exclusive authority, HTP argues that the certificate condition is preempted by the filed rate doctrine because a FERC tariff decides whether cost recovery can be had as a matter pertaining to wholesale transmission rates.

In this case, Mr. Edward Krapels, the Chief Executive Officer of one of the three, limited liability companies that are responsible for the HTP transmission facility, testified in support of the project.[58] When asked about the project's financial arrangements, he stated that HTP, as a development company, has spent millions of dollars to develop the project.[59] Ultimately, HTP intends to have a contract with NYPA that will permit it to finance the HTP project in the capital markets that provide debt and equity financing.[60] The only other information the record provides about the financing for the HTP project is the consideration that NYPA gave to purchasing and acquiring ownership of the HTP transmission facility. NYPA's witness, Mr. Khalil Shalabi, its Director of Power Resource Planning and Acquisition, testified that NYPA ultimately determined that it would not purchase the HTP transmission line.[61] Other than this, the record does not reveal to us the likely means by which the HTP will be financed and capitalized.

Like Staff, we are concerned about HTP's ultimate financial arrangements for the transmission facility. At this stage, we do not know who all the participants in the project will be, and we do not know how the project will be financed. To the extent that the project arrangements and finances involve only NYPA, we are less concerned than we would be if this project were to depend upon the participation of a New York public utility company. To ensure that the interests of New York ratepayers are properly considered and addressed, as stated above in our statutory findings, HTP must notify us of any alternative

[58] Tr. 364-509.

[59] Tr. 445-46.

[60] Id.

[61] Tr. 1145-47.

financing arrangement for this project and explain how it remains consistent with our public interest finding in this case.

Regional Transmission Organization Control of the HTP Facility

DPS Staff favors operational control of the HTP facility at the NYISO. Staff does not support the alternative, PJM operation of the transmission facility. A Staff engineering witness testified that the NYISO should control the HTP facility because the electricity on the line will flow into the Zone J load center where Consolidated Edison knows best the local operating conditions and is in the best position to address any overload conditions.

According to HTP, the NYISO and PJM should jointly consider the HTP facility and determine whether it should be operated by Consolidated Edison or by Public Service Electric and Gas Corporation (PSE&G)in New Jersey. The Applicant states that FERC could ultimately be called upon to determine who should operate and control the facility and, in any event, this matter is not for HTP to address as a certification matter. HTP states that it will provide DPS Staff all the operating instructions that apply to the HTP facility no matter who runs it. Given the HTP facility's fully controllable, back-to-back converter station, the Applicant states that there is automatic protection against a PJM disturbance flowing to New York.

However, DPS Staff does not believe that the facility's control authority should be left undefined. Given Consolidated Edison's knowledge of the Zone J operating conditions, Staff believes it is appropriate for the NYISO to schedule the facility. Staff insists that PJM cannot see into New York and it is not in a good position to provide the control needed here.

We agree with Staff that there is good reason, and a persuasive case to be made, for control of the HTP facility vesting with the NYISO and Consolidated Edison. Unlike HTP, we

are not indifferent as to who is responsible for the operation of this facility. We prefer that operational responsibility be located in New York where there is the ability to oversee the circumstances and examine them should they require our review. For this reason, we are adopting the Staff proposed condition and denying HTP's objection.

Con Edison Approval of HTP Facility Design Plans

DPS Staff proposed a certificate condition that would require HTP to develop equipment designs that are acceptable to Consolidated Edison. The Applicant considers the condition to be ambiguous and fears that it could be interpreted to bar construction pending Consolidated Edison's acceptance of the HTP design plans. HTP states that the phrase "transmission interconnection" is undefined and leaves Consolidated Edison and the Applicant to guess about the equipment that must be approved. Further, HTP considers Staff's condition confusing because it refers to substation construction, but HTP is neither constructing a substation nor is it working within the Consolidated Edison substation. HTP states that Consolidated Edison should only review and approve plans for attachment facilities in the substation and certain relay equipment to be located in the converter station in New Jersey. According to HTP, this review and approval can be accomplished pursuant to its compliance with NYISO's Open Access Transmission Tariff (OATT).

In its reply brief, DPS Staff states that HTP's redrafting of the condition adequately addresses any need for Consolidated Edison to accept the interconnection and substation designs. Thus, this matter is no longer a contested matter.

System Protection Standard

DPS Staff proposed a certificate condition requiring HTP to use equipment that would withstand most electric system abnormalities. However, absent a definition for this term and a

performance standard governing the selection of system protection and control equipment, HTP is opposed to the condition. HTP states that it intrudes on an area governed by the NYISO OATT and it is unnecessary. In any event, HTP states that it is not opposed to providing Staff copies of the applicable technical specifications.

In response, Staff states that it accepts HTP's rewording of its proposed condition as long as the Applicant broadens the reference to protection requirements to include other entities that adopt reliability standards for the electric system. With this change to HTP's proposed wording for the condition, this matter appears to be resolved.

"As Built" Drawings

DPS Staff has proposed a certificate condition that would require HTP to provide "as-built" drawings and the location of the transmission facility as it will exist in its final form. While HTP claims that this requirement duplicates those of another agency, Staff insists that it does not. According to Staff, the "as-built" drawings are needed to ensure that the ultimate facility is well-documented and conforms to the certificate we provide.

We find that HTP should be required to provide "as built" drawings for the transmission facility as Staff has requested. The drawings are needed to ensure that the facility conforms to our expectations. They can also be helpful to avoid any potential confusion or uncertainty were they not to be provided. We therefore adopt Staff's proposed condition.

Street Trees and Landscaping

DPS Staff has proposed a certificate condition requiring HTP to replace trees or landscaping damaged during construction, using standard arboricultural practices. HTP asserts that this condition is not necessary because the matter is covered by the

process NYC Parks employs. Nonetheless, Staff prefers that tree replacement and landscaping requirements be included in the certificate conditions in this instance where the Applicant has not specifically identified any municipal, tree replacement specifications.

We find that there is no harm to the Applicant by including the Staff-proposed condition with the others that apply to the project. HTP is aware that it will be required to replace any damaged trees and to restore any landscaping it may injure. These requirements should be clearly documented as Staff suggests and they do not interfere with HTP working with NYC Parks to satisfy any valid concern it may raise.

Public Safety Manual

DPS Staff has proposed that HTP develop a safety manual for the operations involved in this project. The manual would address trench procedures, traffic safety and equipment operation, among other things. HTP believes that the documents for safety matters should be left to the agencies that have direct responsibility for such matters and have their own paperwork and approaches. However, Staff considers it important to have a single manual containing all applicable safety requirements which makes the information accessible and useful. The manual will also assist Staff in its efforts to enforce compliance with the certificate requirements.

We agree with Staff that a safety manual for the HTP project is useful for overseeing the efforts of contractors and various project personnel. We are adopting the Staff-proposed condition and are requiring HTP to provide this systematic approach which promotes on-site safety.

Certificate Condition Correction – Standards for Dissolved Solids

In its reply brief, DPS Staff provides corrections for a certificate condition (Exhibit 35, Clause 43(d)). Staff states

that the clause should make reference to, and contain standards for, total mercury, arsenic, cadmium, copper and lead, in addition to the total PCBs that are referenced. The certificate conditions we are adopting for the HTP facility will include the corrections Staff has identified.

The Commission orders:

1. Subject to the conditions set forth in this Opinion and Order, Hudson Transmission Partners, LLC (Certificate Holder) is granted a Certificate of Environmental Compatibility and Public Need (Certificate) authorizing construction and operation of a 660 MW, 345 kV AC submarine, underground electric transmission line within New York State along the project route depicted as Appendix A hereto (Certified Route), and associated equipment (collectively, the "Transmission Facility"). The Transmission Facility is the New York State portion of a high voltage direct current transmission line linking the New York State Transmission System with the PJM Interconnection. The Transmission Facility, together with the associated equipment, stations and cables to be located in New Jersey, are collectively referred to as the "HTP Project."

2. The terms of the Certificate Conditions included as Attachment 1 to this Order are hereby approved and incorporated into this Order, including the requirement that the Certificate Holder shall, within 30 days after the issuance of the Certificate, submit to the Public Service Commission a verified statement that it accepts and shall comply with the Certificate and the conditions placed upon the Certificate.

3. The terms of the proposed §401 Water Quality Certification, pursuant to §401 of the Clean Water Act, 33 U.S.C. §1341(a)(1) PSL Article VII are adopted, and it is hereby certified that, if the Certificate Holder submits an acceptable

Environmental Management and Construction Plan (EM&CP) and complies with all conditions contained in this Order, construction of the facility will comply with the applicable requirements of §§301, 302, 306 and 307 of the Clean Water Act, as amended, and will not violate New York State Water Quality standards and requirements.

4. The Certificate Holder shall file its EM&CP with the Commission for approval, consistent with the Certificate Conditions, no more than one year after the issuance of the Certificate.

5. Prior to the commencement of construction, the Certificate Holder will comply with those requirements of Public Service Law §68 that do not relate to the construction and operation of the facility by obtaining Commission permission and approval as an electric corporation.

6. This proceeding is continued.

By the Commission,

Jaclyn A. Brilling

Digitally Signed by Secretary
New York Public Service Commission

JACLYN A. BRILLING
Secretary

CERTIFICATE CONDITIONS

1. The Certificate Holder shall within 30 days after the issuance of the Certificate submit to the New York State Public Service Commission (Commission) either a petition for rehearing or a verified statement that it accepts and will comply with the Certificate. Failure to comply with this condition shall invalidate the Certificate.

2. Any successor to or assignee of the Certificate Holder shall be bound by the terms, limitations and conditions contained in the Certificate unless expressly noted otherwise.

3. The Certificate Holder shall not commence site preparation and construction of the Transmission Facility prior to receiving a Waterfront Development Permit from the State of New Jersey for the New Jersey portion of the Transmission Link, a work permit from the New York State Office of General Services (OGS) for use of state-owned lands under water, and the Department of the Army Permit required for construction in navigable waters of the United States. The Certificate Holder shall provide copies of said permits to the Secretary to the Commission within 15 days of receipt.

4. The Certificate is issued with the understanding that no property within New York State will be required to be obtained through eminent domain. In the event an eminent domain proceeding is initiated in relation to the Transmission Facility, the Certificate shall be deemed invalid; provided that this condition shall not apply to any exercise of eminent domain authority by Consolidated Edison Company of New York (Con Edison) required for the interconnection of the Transmission Facility.

Laws and Regulations

5. (a) Each substantive federal, state and local law, regulation, code and ordinance (including the New York City Zoning Resolution) applicable to the location of the Transmission Facility authorized by the Certificate shall apply.

   (b) No state or local legal provision purporting to require any approval, consent, permit, certificate or other condition for the construction or operation of the Transmission Facility authorized by the Certificate shall apply, except (i) those of the Public Service Law and regulations and orders adopted thereunder, (ii) those provided by otherwise applicable state law for the protection of employees engaged in the construction and operation of the facilities, (iii) those permits issued under a federally delegated environmental permitting program, and (iv) those referenced in Condition 6, below.

6. Subject to the Commission's ongoing jurisdiction, the Certificate Holder will be permitted to seek and shall apply for, and meet all requirements for applications for, and issuance and approval of, the following New York State Department of Transportation (NYSDOT) and New York City (City) permits and approvals that would be applicable to the construction or operation of the Transmission Facility in the absence of Public Service Law §130: building permits, street excavation permits, street closure permits, permits for structural welding, permits under the New York City Fire Code, permits for the discharge of wastewater or

stormwater to the City's sewer system, and revocable consents for the installation, occupancy and maintenance of conduits, vaults and utility lines in public streets and roads.

A copy of each permit or approval received from NYSDOT and the City shall be provided to Department of Public Service (DPS) Staff by the Certificate Holder within 15 days after the Certificate Holder's receipt of such permit or approval.

7. If the Certificate Holder believes that any action taken, or determination made, by the City or NYSDOT in furtherance of its review of the permits and approvals referenced in Condition 6, above, is unreasonable or unreasonably delayed, the Certificate Holder may petition the Commission, upon reasonable notice to the City or NYSDOT, to seek a resolution of any such unreasonable requirement or unreasonable delay. The City or NYSDOT may respond to the petition, within three business days, to address the reasonableness of any requirement or delay.

Public Health and Safety

8. (a) The Certificate Holder shall design, engineer and construct the Transmission Facility such that its operation shall comply with the interim electromagnetic field (EMF) standards established by the Commission in Opinion No. 78-13 (issued on June 19, 1978) and the Statement of Interim Policy on Magnetic Fields of Major Electric Transmission Facilities (issued on September 11, 1990).

(b) The Certificate Holder shall seek to minimize electromagnetic fields by designing and constructing the Transmission Facility, including the cables and the manholes, as deep as practical and as close as practical to: the center of the West Side Highway, taking into consideration the location of pre-existing underground facilities and the requirements of the affected New York City agencies.

9. Construction work outside the walls of buildings whose exterior walls and roof are substantially complete shall take place between 7:00 a.m. and 6:00 p.m. as required by §24-222 of the Noise Code. For certain construction phases and activities, additional work hours may be necessary. Nothing herein shall preclude the Certificate Holder from making necessary arrangements for the extension of additional work hours with appropriate City authorities. Noise mitigation procedures shall follow those set forth in the approved Environmental Management and Construction Plan (EM&CP). DPS Staff shall be notified at least 24 hours in advance if planned weekend, evening or holiday construction becomes necessary. This condition is not intended to prohibit nighttime construction reasonably necessary to comply with restrictions on daytime construction on or along roadways or public access areas or to require the cessation of construction activities which require a continuous work effort once started.

10. Deliveries related to construction activities shall take place between 7:00 a.m. and 6:00 p.m., except that, to the extent required to accommodate oversized delivery pursuant to a NYCDOT permit, the Transmission Facility shall be exempt from restrictions limiting delivery to the hours between 7:00 a.m. to 6:00 p.m. This condition is not intended to prohibit nighttime deliveries reasonably necessary to facilitate compliance with restrictions

on daytime construction in or along roadways or public access areas or to require the cessation of construction activities which require a continuous work effort once started.

11. The Certificate Holder shall keep local fire department and emergency management teams apprised of chemicals and waste on site.

12. The Certificate Holder shall take appropriate measures as outlined in the EM&CP to minimize fugitive dust and airborne debris from construction activity.

13. The Certificate Holder shall instruct its contractors to park in designated areas that do not interfere with normal traffic, cause any safety hazard, or interfere with existing land uses.

14. The Certificate Holder shall periodically consult with the NYCDOT about traffic conditions near the project site, and shall make good faith efforts to minimize the impact of the construction of the Transmission Facility on area traffic circulation.

15. To the extent required in connection with the delivery of oversized facility components, the Certificate Holder or its suppliers shall obtain any necessary permits from the NYCDOT.

16. The Certificate Holder shall consult with the New York City Department of Environmental Protection Bureau of Water and Sewer, NYCDOT and NYSDOT to ensure, among other things, that design, engineering and construction of the Transmission Facility is fully compatible with the operation and maintenance of nearby electric, gas, telecommunication, water, sewer and related facilities; details of such other facilities and measures to protect the integrity, operation and maintenance of those facilities shall be presented in the EM&CP.

17. The Certificate Holder shall coordinate construction and maintenance of the Transmission Facility with the owners of any adjacent utility facilities.

18. The Certificate Holder shall comply with the requirements for the protection of underground facilities set forth in 16 NYCRR Part 753.

19. The Certificate Holder shall coordinate and schedule construction and maintenance activities to minimize or avoid, to the extent practicable, disturbance to pedestrian use of recreation ways, access to port facilities and use of parkland areas in the vicinity of construction activities.

Environmental Management and Construction Plan

20. Except where this Certificate requires otherwise, the environmental protection measures contained in the Application and §401 Water Quality Certification shall be incorporated into the EM&CP and applied during construction, operation and maintenance of the certified Transmission Facility. Applicable provisions of the EM&CP and orders approving the EM&CP shall be included in contracts associated with the design and construction of the Transmission Facility.

21. The Certificate Holder shall provide, as a part of the EM&CP, a final design-plan that reflects the Transmission Facility's conformance with the Certificate; applicable federal,

state and local requirements (including, but not limited to, applicable regulations administered by or in connection with: Occupational Safety and Health Administration, Federal Fire Code, New York State Code 39, New York City Building Code, Rules of City of New York and storage, use and handling of chemicals and waste); a discussion of the status of the Certificate Holder's efforts to obtain permits necessary for project construction from the City; and an executed copy of the Interconnection Agreement (IA) among the New York Independent System Operator (NYISO), Con Edison and Hudson Transmission Partners (HTP) confirming that the Transmission Facility's interconnection with Con Edison's electric system is acceptable to Con Edison.

22. The Certificate Holder shall not begin site preparation or construction with respect to any portion of the Transmission Facility (except for surveying, boring and such other related activities as are necessary to prepare final design plans) before it has submitted to the Commission, and the parties identified in Condition 23, below, and the Commission has approved an EM&CP for the relevant portion of the Transmission Facility.

23. The Certificate Holder shall: submit four copies of the EM&CP to the Commission, serve four copies on the Staff of the New York State Department of Environmental Conservation (DEC), one copy on the Region 2 office of the DEC, one copy on Region 11 of NYSDOT, one copy on the Commissioner of the New York State Office of Parks, Recreation and Historic Preservation (OPRHP), one copy on any other state agency (and its relevant regional offices) that requests the document, one copy on each active party on the service list who requests the document; and, place copies for inspection by the public in at least one public library or other convenient location in each municipality in which construction will take place. Contemporaneously with the submission and service of the EM&CP, the Certificate Holder shall provide notice, in the manner specified below, that the EM&CP has been filed.

24. The Certificate Holder shall serve written notice(s) of the filing of the EM&CP on all active parties and all statutory parties to this proceeding and attach a copy of the notice to each copy of the EM&CP. The Certificate Holder shall publish the notice(s) in a newspaper(s) of general circulation within the vicinity of the Transmission Facility.

25. The Certificate Holder shall provide direct notice of EM&CP availability to businesses and property owners within 100 feet of the proposed work area. The notice shall include: details about the planned work locations, hours and duration of activities; provisions for protection of properties; offers to inspect building foundations and document existing conditions prior to construction; provisions for maintenance and protection of pedestrian and vehicle access to buildings and properties; identification of locations where additional information and copies of the EM&CPs are available; contact information for certificate holder personnel, and instructions on how comments regarding construction plans and mitigation measures may be filed with the Secretary to the Commission, indicating appropriate deadlines for commenting and contact information. Proof of notice shall accompany filing of the EM&CP.

The filing and review of the EM&CP may be segmented in order to permit construction of the on-land components and the in-water components of the Transmission Facility.

26. The written notice(s) and the newspaper notice(s) shall contain, at a minimum, the following: a statement that the EM&CP has been filed; a general description of the Transmission Facility and the EM&CP; a listing of the locations where the EM&CP is available for public inspection; a statement that any person desiring additional information about a specific geographical location or specific subject may request it from the Certificate Holder; the name, address, and telephone numbers of the Certificate Holder's representative and the Independent Inspector; the address of the Commission; and, a statement that any person may comment on the EM&CP by filing written comments with the Commission and the Certificate Holder within 30 days of the later of the EM&CP filing date or the date of the newspaper notice. A certificate of service indicating upon whom all EM&CP notices and documents were served and a copy of the written notice shall be submitted to the Secretary to the Commission at the time the EM&CP is filed and shall be a condition precedent to approval of the EM&CP.

27. The Certificate Holder shall report any proposed changes in the approved EM&CP to DPS Staff, DEC Staff, and the Independent Inspector. DPS Staff will refer to the Secretary to the Commission (or a designee) reports of any proposed changes that do not cause a substantial change in environmental impact or are not related to contested issues decided during the proceeding. DPS Staff shall refer all other proposed changes in the EM&CP to the Commission for approval. Upon being advised that DPS Staff will refer a proposed change to the Commission, the Certificate Holder shall notify all active parties that have requested (before the approval of the EM&CP) to be so notified, as well as property owners or lessees whose property is affected by the proposed change. The notice shall describe the original conditions and the requested change, state that documents supporting the request are available for inspection at specified locations, and state that persons may comment by writing to or calling (followed by written confirmation) the Commission within 15 days of the notification date. The Certificate Holder shall not execute any proposed change until it receives oral or written approval, except in emergency situations threatening personal injury, property damage or severe adverse environmental impact, or as specified in the EM&CP.

28. The Certificate Holder shall address at least the following information in the EM&CP:

    (a) Details of work site dimensions and locations, construction rights-of-way and off-rights-of-way access needs and locations; locations of all utility crossings; locations and descriptions of work scheduled or planned by others in the vicinity of Transmission Facility construction identified after consulting with relevant federal, state and city agencies; and, measures to protect adjacent facilities, structures, and ornamental vegetation;

    (b) Details of horizontal directional drilling (HDD) pit location, stabilization and noise control;

    (c) A drawing showing the location of the HDD borehole in relationship to the Manhattan shoreline bulkhead;

    (d) Details of cable pulling plans;

    (e) Designated parking areas and equipment storage and staging locations;

(f) Details of erosion control plans;

(g) Spoil control plans for excavations;

(h) Hazardous materials handling and disposal;

(i) Public road traffic control and public safety;

(j) Pedestrian and vehicle traffic control plans, fencing around open work areas and provisions for through traffic and alternative access;

(k) Plans and specifications of streets, sidewalk, curbing and street furniture restoration;

(l) Nighttime construction provisions, including lighting and noise control;

(m) Underwater construction and vessel spill containment and control plans;

(n) Site restoration details;

(o) Detailed construction schedule and coordination plans;

(p) Dredging and dredged materials management and disposal plans;

(q) Provision for submission of a certification by a professional engineer licensed by the State of New York stating that, if constructed in accordance with the final design plans, the Transmission Facility will comply with the applicable electromagnetic and magnetic field standards;

(r) Details of the design of the dielectric fluid storage tanks and vaults demonstrating adequate containment capacity;

(s) A fuel and fluid spill prevention, release control and clean-up plan that includes measures for fully remediating leaks and spills that cause a sheen or film on the Hudson River that violates 6 NYCRR § 703.2;

(t) A plan for monitoring cable fluid pressure;

(u) Plans for pre- and post-installation sediment and benthic community monitoring as described in Condition 47, below;

(v) Plans for avoidance of impacts to potential underwater archeological resources;

(w) Other mitigation measures appropriate to demonstrate compliance with other permits and approvals;

(x) De-watering, runoff and drainage control provisions and a layout plan and description of procedures for dewatering upland areas, including methods for water

recovery, handling, storage, testing and disposal;

(y) Methods for handling and disposal of HDD fluids and cuttings;

(z) For any materials proposed for use as backfill in the dredge area or upland route, identification of its source and the evaluation of its suitability;

(aa) Water quality monitoring plan for jet plow and dredge activities; and

(bb) A compliance plan, which shall include:

(i) The name(s) of the Independent Inspector(s) and a statement of qualifications for each inspector demonstrating sufficient knowledge and experience in environmental matters to complete the inspections and audits and familiarity with the conditions contained in this Certificate and orders approving the EM&CP's;

(ii) Certification confirming the independence of the inspector(s) from the Certificate Holder and certifying the authority of the inspector(s) to "stop work" in cases of non-compliance or imminent environmental or safety hazard;

(iii) Provision for deployment of more than one inspector in the event that two or more major field operations are undertaken simultaneously, such that at least one inspector shall be assigned to each construction area and no inspector shall be assigned to more than two active construction areas at any one time;

(iv) Proposed checklist of matters to inspect for compliance, including the specific items or locations to be inspected, the inspection to be employed (e.g. visual, auditory and testing by instrument) and acceptability criteria to be applied by the inspector(s);

(v) Procedure setting forth how the Certificate Holder shall respond to and correct problems found by the inspector(s);

(vi) Schedule for monthly environmental audits during construction and submission of audit checklists, together with a written explanation of problem(s) signed by the auditor(s) and an authorized representative of the Certificate Holder, submitted to DPS Staff, DEC Staff, and local agency and/or building inspectors; and

(vii) Schedule for submission of annual audits during the first two years of operation of the Facility to DPS, DEC, and appropriate local agencies.

Notices and Public Complaints

29. The Certificate Holder shall make available to the public a toll free or local phone number of an agent or employee for receipt of complaints during the construction of the Transmission Facility. In addition, the phone number of the Secretary to the Commission and the phone number of the DPS Environmental Compliance Section shall also be provided to receive any

questions or concerns. A log shall be maintained which provides at least: date and description of any complaint; identity and contact information for the complaining party; date of the Certificate Holder's response; and, a description of the outcome. Phone logs shall be made available to DPS Staff upon its request. During DPS Staff's compliance inspections, the Certificate Holder shall report to DPS Staff every unresolved complaint.

30. Not less than two weeks before commencing site preparation, the Certificate Holder shall give notice to local officials and emergency personnel, including United States Coast Guard, Sandy Hook Pilots Association, New York Harbormaster, New York City Department of Transportation and New York City police and fire officials. The Certificate Holder shall provide such notice for dissemination to local media and display in public places (such as general stores, post offices, community centers and conspicuous community bulletin boards). The notice shall contain a map and description of the Transmission Facility in the local area, anticipated date for start of construction and the name, address and local or toll-free telephone number of an employee or agent of the Certificate Holder. The notice shall contain a statement that the project is under the jurisdiction of the Public Service Commission which is responsible for enforcing compliance with environmental and construction conditions, and which may be contacted at the address and telephone number provided in the notice. The notice will be written in language reasonably understandable to the average person. Upon distribution, a copy shall be submitted to the Secretary to the Commission, the DEC Commissioner, and DEC Staff.

31. The Certificate Holder shall provide construction contractors with complete copies of the Certificate, EM&CP, §401 Water Quality Certification and 6 NYCRR Parts 700-703. To the extent that the listed documents are available before contracts for construction services are executed, such copies shall be provided to the contractors prior to execution of such contracts.

32. The Certificate Holder shall notify all construction contractors that the Commission may seek to recover penalties for violation of the Certificate, not only from the Certificate Holder, but also from its construction contractors, and that construction contractors may also be liable for other fines, penalties and environmental damage.

33. The Certificate Holder shall inform the Secretary to the Commission, the DPS Staff, and DEC Staff at least five days before commencing construction.

34. The Certificate Holder shall provide DPS Staff and DEC Staff with weekly status reports summarizing the previous week's construction and indicating construction activities and locations scheduled for the next two weeks.

35. Within ten days after the Transmission Facility’s initial in-service date, the Certificate Holder shall notify the Commission of that fact.

Right-of-Way, Construction, Maintenance and Restoration

36. The Certificate Holder shall confine construction and subsequent maintenance to the certified right-of-way and approved additional work areas, as detailed in the EM&CP.

37. The Certificate Holder shall prepare detailed soil handling and erosion control plans to be included in the EM&CP. The soil handling and erosion control plans shall include specifications for soil testing, stockpiling and removal from site, storage, erosion control, restoration and compaction of backfill in trenches. The plans shall provide for the installation of temporary erosion control devices as soon as practicable and appropriate, and as required under the Stormwater Pollution Prevention Plan for less than one acre.

38. The Certificate Holder shall provide details in the EM&CP of street work, including provisions for minimizing the duration and extent of open pits within and adjoining public streets and rights-of-way.

39. Within ten days of the completion of final restoration, the Certificate Holder shall notify the Commission that all restoration has been completed in compliance with the EM&CP.

40. The Certificate Holder shall submit a facility management plan, as part of the EM&CP, which includes discussion of patrols, marking and maintenance of facilities, and coordination of activities with underlying landowners and managers.

Installation, Suspended Sediment and Water Quality Monitoring

41. (a) Construction within navigable waters shall be undertaken as and when permitted by the United States Army Corp of Engineers (USACE), but not during the period November 15 to April 15.

(b) The following activities may be undertaken during the November 15 to April 15 period: geotechnical and archeological sampling and testing; mobilization and demobilization of vessels and equipment used for cable installation and cofferdam construction; locating and marking utility crossings; and, on prior notice to DPS Staff and DEC Staff, required cable maintenance and repair work.

(c) After prior consultation with the DEC Staff and DPS Staff, the Certificate Holder may petition the Commission for a modification of any construction window limitation, provided copies of the petition are served on all parties to this proceeding. Such petition shall include the results of such consultation.

(d) The Certificate Holder shall install the cable at a burial depth of a minimum 15 feet below the existing riverbed within the Federal Navigation Channel and a minimum of 10 feet below the existing riverbed outside the Federal Navigation Channel.

(e) The Certificate Holder shall comply with any conditions contained in a Water Quality Certification issued pursuant to §401 of the Federal Clean Water Act.

42. During the jet plow trials and the facility installation, the Certificate Holder shall implement the Suspended Sediment/Water Quality Monitoring Plan (hereinafter the "Monitoring Plan") attached as Appendix B to the §401 Water Quality Certification. The Certificate Holder shall operate the jet plow in accordance with the operating conditions determined through the jet plow trials described in the Monitoring Plan to minimize suspension of in situ sediments, subject to the limitations of Condition 44(c), below.

43. If the jet plow trials demonstrate that the preferred operating conditions result in real-time, Total Suspended Solids (TSS) concentrations, measured 500 feet down-current of the jet plow, exceeding the TSS concentrations at the up-current background station by more than 200 mg/L, the Certificate Holder shall report such conditions to the Independent Inspector and work with DPS Staff and DEC Staff to evaluate and implement reasonable modifications to the jet plow operating conditions to minimize in situ sediment suspension associated with the single pass jet plow installation procedure.

44. Water Quality:

(a) During jet plow installation, the Certificate Holder shall measure turbidity (NTU), TSS, hardness, total Polychlorinated Biphenyls (PCB) (method 608), arsenic, cadmium, copper, mercury and lead concentrations within the water column of the Hudson River at a point outside the effects of the jetting event (the up-current background station) and at the transects down-current of the operating jet plow described in the Monitoring Plan. Metals shall be reported both as totals and as dissolved fractions, except mercury, which shall be reported as total mercury. Up-current samples shall be collected at a location at least 500 feet up-current of the jet plow (or at such greater distance as may be required to maintain a safe distance from the cable vessel) outside the effect of the jet plowing. Down-current samples will be collected 500 feet down-current of the jet plow. Samples shall be collected at three depths: approximately 18 inches below the surface, at mid-depth and at three feet above the bottom.

(b) Suspended sediment plume monitoring and water quality monitoring shall be conducted at the locations and frequency set forth in the Monitoring Plan.

(c) If, during jet plow installation of the cable, TSS Concentrations measured at 500 feet down-current of the jet plow exceed TSS concentrations at the up-current background station by more than 200 mg/L, DPS Staff, DEC Staff and the Independent Inspector shall be immediately notified. The Certificate Holder shall immediately employ one or more of the following environmental protection measures after consultation with the field representatives of DPS Staff, DEC Staff and the Independent Inspector: changing the rate of advancement of the jet plow, modifying hydraulic jetting pressures, or implementing other reasonable operational controls that may reduce suspension of in situ sediments but not in a manner that would materially delay the progress of work to complete the jetting installation procedure, meaning a delay that would increase the jet plow installation schedule by more than fifty percent (50%). Nothing in this subsection is intended to require that hydraulic jetting pressures be reduced to levels which would not allow burial to the depths specified in the USACE permit through a single installation pass.

(d) During jet plow installation of the cable, the concentrations of total PCBs, total mercury, and of the dissolved fraction of arsenic, cadmium, copper and lead, measured in the samples collected 500 feet down-current of the jet plow shall not exceed the greater of: (a) the levels set forth in the table below or (b) 1.3 times the highest ambient background level measured during the same sampling day at the up-current

background station at the same depth as the down-current sample.

Chemical	Standard or Guidance Value (ug/L)
Dissolved Arsenic	36.0
Dissolved Cadmium	7.7
Dissolved Copper	7.9
Dissolved Lead	204.0
Total PCBs	0.2 per aroclor
Total Mercury	0.05

(e) All laboratory analyses of Hudson River water quality and marine sediments required in this Certificate must be conducted by a laboratory certified by the New York State Department of Health.

(f) Nothing in this Certificate and its appendices shall limit either (i) the authority of the DEC to monitor the environmental and health impacts resulting from the construction and operation of the project and to enforce applicable provisions of the Environmental Conservation Law (including those which provide for summary abatement authority) and applicable implementing regulations governing the environmental and health impacts resulting from such construction and operation, or (ii) any defenses to such enforcement that the Certificate Holder may be able to assert under applicable law.

45. To avoid disturbance to near shore sediments, the Certificate Holder shall employ HDD to install the submarine cable system from the approved HDD drill pit to the exit pit in the bed of the Hudson River. The exit pit shall be installed within a dredged cofferdam. No dredging is authorized by this Certificate except for dredging in connection with installation of the cofferdam and subsequent installation activities at the cofferdam location.

46. An environmental bucket shall be used for dredging silt or other fine-grained materials during cofferdam construction and transition operations. Drawings and specifications of the environmental bucket must be provided to the DEC Staff and DPS Staff prior to the anticipated start of dredging.

(a) A closed environmental bucket with sealing gaskets or an overlapping sealed design at the jaws and seals or flaps positioned at locations of vent openings shall be selected to minimize the loss of material during transport through the water column and into the barge. Seals or flaps designed or installed at the jaws and locations of vent openings must tightly cover these openings while the bucket is lifted through the water column and into the barge.

(b) If significant loss of water and visible sediments from the bucket is observed, the operator or Independent Inspector shall halt dredging operations and inspect the bucket for defects. Operations shall be suspended until all necessary repairs or replacements are made.

(c) The material removed may not be side cast or returned to the water. The bucket shall be lowered to the level of the barge gunwales prior to release of the load.

(d) Bucket hoist speed shall be limited to approximately two feet per second. The bucket shall be lifted in a continuous motion through the water column and into the barge. There shall be no barge overflow.

(e) The contractor shall demonstrate to the Independent Inspector's satisfaction that the bucket dredge operator has sufficient control over the bucket depth in the water and bucket closure so that the sediment re-suspension from bucket contact with the bottom and bucket over-filling is minimized.

(f) Only barges in good operating condition and appropriately designed to contain discharged sediments shall be employed to contain the sediment and water placed in them. Deck barges shall not be employed, unless modified to allow no barge overflow.

(g) All sediments excavated during cofferdam construction and transition activities at the landfall location must be disposed of at a state-approved upland disposal site. Dredged material shall not be sidecast, stockpiled on-site, or re-introduced into the harbor.

47. Pre- and Post Installation Monitoring:

(a) A pre- and post-installation sediment monitoring plan shall be submitted in the EM&CP after consultation with DEC Staff and DPS Staff. The results of that consultation shall be reported in the plan submission. The plan shall provide that pre- and post-installation surficial sediment samples (top two centimeters) will be collected and analyzed prior to and subsequent to the completion of jet plow installation of the cable system, and that post-installation sampling shall commence promptly after the completion of the jet plow installation process. Specific methods and equipment shall be described to ensure the top two centimeters of ambient sediment are adequately collected, retained and sequestered for analysis. Samples shall be collected and analyzed for arsenic, cadmium, copper, lead, mercury, total PCBs using a congener-specific method, as outlined in the USACE/Environmental Protection Agency (EPA) Regional Testing Manual for Dredged Materials, and total PAH. Surficial sediment samples shall be collected at stations located approximately 50 and 100 meters up-river and down-river from the planned route, such locations to be determined after consultation with DEC Staff and DPS Staff. At least five locations spaced evenly along the route shall be identified from which the sampling stations shall be established (total of 20 samples). The Certificate Holder shall submit to the DEC Staff and DPS Staff a report which provides the analytical results, and compares them to pre-installation chemical concentrations in surficial sediments located along the approved route.

(b) A pre- and post-installation benthic community monitoring plan shall be submitted in the EM&CP after consultation with DEC Staff and DPS Staff. The results of that

consultation shall be reported in the plan submission. The plan shall provide for periodic benthic monitoring at locations to be determined after consultation with DEC Staff and DPS Staff, within an area extending approximately one hundred feet (100') on either side of the jet plowed trench for up to 18 months after completion of jet plow installation. The plan shall provide for one pre-installation benthic monitoring and at least one post-installation monitoring during the same season.

(c) A mitigation plan shall be submitted in the EM&CP after consultation with DEC Staff and DPS Staff to accommodate and address the impacts to benthic habitat. The results of that consultation shall be reported in the plan submission. Since remediation of the impacted habitat and benthic community is impracticable, the mitigation plan shall provide criteria developed after consultation with DEC Staff for determining when mitigation is necessary, and a method and schedule for implementation of mitigation measures.

Environmental Supervision

48. The authority granted in the Certificate and any subsequent order(s) in this proceeding is subject to the following conditions:

(a) The Certificate Holder shall regard the DPS Staff field representatives certified pursuant to Public Service Law §8 as the Commission's designated representatives in the field. In the event of any emergency resulting from the specific construction or maintenance activities that violate or may violate the terms of the Certificate or any other order in this proceeding, DPS Staff field representatives may issue a stop-work order for that location or activity.

(b) A stop-work order shall expire in 24 hours unless confirmed by a single Commissioner. If a stop-work order is confirmed, the Certificate Holder may seek reconsideration from the confirming Commissioner or the whole Commission. If the emergency prompting the issuance of a stop-work order is resolved to the satisfaction of the Commissioner or the Commission, the stop-work order will be lifted. If the emergency has not been satisfactorily resolved, the stop-work order will remain in effect.

(c) Stop-work authority shall be exercised sparingly and with due regard to the potential economic costs involved and possible impact on construction activities. Before exercising such authority, DPS Staff field representatives may consult with the Independent Inspector, or may initiate action based upon the Independent Inspector's oral report, and shall attempt (wherever practicable) to direct preventive or remedial action through the Certificate Holder's representatives possessing comparable authority. In the event that DPS Staff field representatives issue a stop work order, neither the Certificate Holder nor the contractor will be prevented from undertaking any such safety-related activities as they deem necessary and appropriate under the circumstances.

(d) In the event of any emergency involving specific construction or maintenance activities that violate or threaten to violate the terms of the Certificate or any other

order in this proceeding, DPS Staff field representatives may direct the Certificate Holder to install appropriate mitigation measures or devices.

49. The Independent Inspector and appropriate inspection personnel of the Certificate Holder shall be on site at the start-up of each field operation and at all times during construction in the Hudson River and at waterfront areas. The Independent Inspector and appropriate inspection personnel of the Certificate Holder shall be equipped with sufficient documentation and transportation and communication equipment to monitor effectively contractor compliance with the provisions of this Certificate, subsequent orders in this proceeding, applicable sections of the Public Service Law, and the Commission approved EM&CP.

50. The Certificate Holder shall organize and conduct site compliance audit inspections for DPS Staff as needed but not less frequently than once a month during the site preparation, HDD, in-river excavation and cable-laying, upland excavation, construction, and restoration phases of the project, and at least annually for two years after the project is operational. The inspection shall include a review of the status of compliance with all certificate conditions and EM&CP requirements, as well as a field review of the project, if necessary. The inspection may also include:

(a) review of all complaints received and their proposed or actual resolutions;

(b) review of any significant comments, concerns or suggestions made by the public, local governments or other agencies.

(c) review of the status of the project in relation to the overall schedule established prior to the commencement of construction; and

(d) any other items the Certificate Holder or DPS Staff considers appropriate.

The Certificate Holder shall circulate a written record of the results of the inspection to involved agencies.

Cultural Resources

51. Should archeological materials be encountered during construction, the Certificate Holder shall stabilize the area and cease construction activities in the immediate vicinity of the find and protect the same from further damage. Within 24 hours of such discovery, the Certificate Holder shall notify DPS Staff and OPRHP to determine the best course of action. No construction activities shall be permitted in the vicinity of the find until such time as the significance of the resource is evaluated and the need for and scope of impact mitigation is determined.

52. Should human remains or evidence of human burials be encountered during the conduct of archeological data recovery fieldwork or during construction, all work in the vicinity of the find shall be immediately halted and the remains shall be protected from further damage. Within 24 hours of any such discovery, the Certificate Holder shall notify the DPS Staff and OPRHP. All archaeological/burial encounters and their handling shall be reported in the status reports required by Condition 50, above.

53. The Certificate Holder shall refrain from undertaking construction in areas where cultural resource surveys have not been completed and until such time as the results of any additional cultural resource surveys that are required have been reviewed by the appropriate authorities, including OPRHP and DPS Staff. DPS Staff shall be contacted prior to commencement of construction in any such areas.

Transmission System Reliability

54. The Certificate Holder shall develop a safety and emergency operating plan and provide such plan to DPS Bulk Electric System Staff six months prior to the operation of the Transmission Facility. The plan shall address on-site emergencies and procedures and persons responsible for specific notification procedures. The safety and emergency operating plan will be updated yearly and provided to DPS Staff and Con Edison.

55. Prior to commencing construction of the portion of the Transmission Facility associated with the cable entrance into, and its termination within, the West 49th St. Substation, excluding minor activities required for testing and development of final engineering and design information, the Certificate Holder shall provide to DPS Staff, proof of acceptance by Con Edison of the design of such portion.

56. The HTP Project shall be subject to inspection by authorized representatives of DPS Staff pursuant to Public Service Law §66(8).

57. The Certificate Holder shall incorporate, and implement as appropriate, the standards and measures for engineering design, construction, inspection, maintenance and operation of the HTP Project, including features for facility security and public safety, utility system protection, plans for quality assurance and control measures for facility design and construction, utility notification and coordination plans for work in close proximity to other utility transmission and distribution facilities, vegetation and facility maintenance standards and practices, emergency response plans for construction and operational phases, and complaint resolution measures, as presented in its Application and this Order.

58. The Certificate Holder shall file with the Secretary to the Commission, within three days after commencement of commercial operation of the HTP Project, an original and three copies of written notice thereof.

59. The Certificate Holder shall file: 1) a copy of the System Reliability Impact Study (SRIS) performed in accordance with the NYISO Open Access Transmission Tariff (OATT), approved by the Federal Energy Regulatory Commission (FERC), and all appendices thereto, reflecting the interconnection of the Transmission Facility; 2) a copy of the studies performed and accepted for the interconnection of the Transmission Facility to the PJM system; and 3) the estimated and final cost for inter-connecting the Transmission Facility to the PJM system and a one-line diagram of the Transmission Facility paid for by the Certificate Holder.

60. The Certificate Holder shall design, engineer, and construct the Transmission Facility in support of the HTP Project in accordance with the applicable and published planning and design standards and best engineering practices of NYISO, the New York State Reliability

Council (NYSRC), Northeast Power Coordinating Council (NPCC), North American Electric Reliability Council (NERC) and successor organizations, depending upon where the Transmission Facility is to be built and which standards and practices are applicable. Specific requirements shall be those required in the SRIS as performed in accordance with the NYISO's OATT and by the IA and the facilities agreement with Con Edison.

61. The Certificate Holder shall work with Con Edison, and any successor Transmission Owner (as defined in the NYISO Agreement), to ensure that, with the addition of the HTP Project (as defined in the IA between the Certificate Holder and Con Edison), the system will have power system relay protection and appropriate communication capabilities to ensure that operation of the Con Edison transmission system remains adequate under NPCC Bulk Power System Protection Criteria, and meets the protection requirements at all times of the NERC, NPCC, NYSRC, NYISO and Con Edison, and any successor Transmission Owner (as defined in the NYISO Agreement). The Certificate Holder shall ensure compliance with applicable NPCC criteria and shall be responsible for the costs to verify that the relay protection system is in compliance with applicable NPCC, NYISO, NYSRC and Con Edison criteria.

62. The Certificate Holder shall operate the HTP Project in accordance with the IA, approved tariffs and applicable rules and protocols of Con Edison, NYISO, NYSRC, NPCC, NERC and successor organizations. The Certificate Holder may seek subsequent review of any specific operational orders at the NYISO, the Commission, the FERC, or in any other appropriate forum.

63. The Certificate Holder shall be in full compliance with the applicable reliability criteria of Con Edison, NYISO, NPCC, NYSRC, NERC and successors. If it fails to meet the reliability criteria at any time, the Certificate Holder shall notify the NYISO immediately, in accordance with NYISO requirements, and shall simultaneously provide the Commission and Con Edison with a copy of the NYISO notice.

64. The Certificate Holder shall file a copy of the following documents with the Secretary to the Commission:

    (a) All facilities agreements with Con Edison, PSEG, PJM and successor Transmission Owners throughout the life of the plant (as defined in the NYISO and PJM Agreement(s));

    (b) Any documents produced as a result of the updating of requirements by the NYSRC;

    (c) The Relay Coordination Study, which shall be filed not later than six months prior to the projected date for commencement of commercial operation of the Transmission Facility; and a copy of the manufacturers' "terminal equipment characteristics" of the equipment installed (including test and design data);

    (d) A copy of the facility design studies for the HTP Project, including all updates (throughout the life of the HTP Project);

(e) A copy of the IA (includes Con Edison, PSE&G and PJM) and all updates or revisions (throughout the life of the HTP Project); and

(f) A complete report of the control system and its characteristics, including submission of a copy to Con Edison;

(g) If any equipment or control system with different characteristics is to be installed, the Certificate Holder shall provide that information to DPS Staff and Con Edison 90 days prior to any change is made; and, any supporting documentation will need to be reviewed by DPS Staff and Con Edison (throughout the life of the HTP Project).

65. The Certificate Holder shall obey unit commitment and dispatch instructions issued by NYISO, or its successor, in order to maintain the reliability of the Transmission Facility. In the event that the NYISO System Operator encounters communication difficulties, the Certificate Holder shall obey dispatch instructions issued by the Con Edison Control Center, or its successor, in order to maintain the reliability of the Transmission Facility.

(a) After commencement of construction of the HTP Project, the Certificate Holder shall provide DPS Staff and Con Edison with a monthly report on the progress of construction and an update of the construction schedule, and file copies of current construction progress reports during all phases of construction. In the event the Commission determines that construction is not proceeding at a pace that is consistent with Good Utility Practice, and that a modification, revocation, or suspension of the Certificate may therefore be warranted, the Commission may issue an Order to Show Cause requiring the Certificate Holder to explain why construction is behind schedule and to describe measures taken to get back on schedule. The Order to Show Cause will set forth the alleged facts that appear to warrant the intended action. The Certificate Holder shall have thirty days after the issuance of such Order to respond and other parties may also file comments within such period. Thereafter, if the Commission is still considering action with respect to the Certificate, a hearing will be held prior to issuance of any final order of the Commission to amend, revoke or suspend the Certificate. It shall be a defense in any proceeding initiated pursuant to this condition if the delay of concern to the Commission:

(i) arises in material part from actions or circumstances beyond the reasonable control of the Certificate Holder (including the actions of third parties);

(ii) is not in material part caused by the fault of the Certificate Holder; or

(iii) is not inconsistent with a schedule that constitutes Good Utility Practice.

(b) The Certificate Holder shall file with the Secretary to the Commission, no more than four months after the commencement of construction, a detailed progress report. Should that report indicate that construction will not be completed within 12 months, the Certificate Holder shall include in the report an explanation of the circumstances contributing to

the delay and a demonstration showing why construction should be permitted to proceed. In these circumstances, an order to show cause will not be issued by the Commission, but a hearing will be held before the Commission takes any action to amend, revoke or suspend the Certificate.

(c) For purposes of this condition, Good Utility Practice shall mean any of the applicable acts, practices or methods engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability and safety. Good Utility Practice is not intended to be limited to the optimum practice, method, or act, to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region in which the Certificate Holder is located. Good Utility Practice shall include, but not be limited to, NERC criteria, rules, guidelines and standards, NPCC criteria, rules, guidelines and standards, NYSRC criteria, rules, guidelines and standards, and NYISO criteria, rules, guidelines and standards, where applicable, as they may be amended from time to time (including the rules, guidelines and criteria of any successor organization to the foregoing entities). When applied to the Certificate Holder, the term Good Utility Practice shall also include standards applicable to an independent transmission connecting to a transmission system or system of a utility.

(d) Except for periods during which the Transmission Facility is unable to safely and reliably convey electrical energy to the New York bulk transmission system (e.g, because of problems with the Transmission Facility itself or upstream electrical equipment) the Certificate Holder's HTP Project shall be exclusively connected to the New York transmission system over the Transmission Facility authorized herein.

66. The Certificate Holder shall work with Con Edison system planning and system protection engineers to discuss the characteristics of the Transmission Facility and its protection systems, as provided for in Condition 64(c), above. This discussion is designed to ensure that the equipment specified and then purchased will be able to function as required pursuant to applicable reliability standards. The technical considerations of interconnecting the Transmission Facility to the substation shall be documented by the Certificate Holder and provided to DPS Staff and Con Edison prior to the installation of transmission equipment. Updates to the technical information shall be furnished as available (throughout the life of the HTP Project).

67. The Certificate Holder shall work with Con Edison engineers and safety personnel on testing and energizing equipment in the W. 49th Street substation. A testing protocol shall be developed and provided to Con Edison for review and acceptance. The Certificate Holder shall provide a copy of the testing design protocol to DPS Bulk Electric System Staff

Section within 30 days of Con Edison's acceptance. The Certificate Holder shall make a good faith effort to notify DPS Staff of meetings related to the electrical interconnection of the Transmission Facility to the Con Edison transmission system and provide the opportunity for DPS Staff to attend those meetings.

68. The Certificate Holder shall call DPS Bulk Electric System Staff within six hours to report any incident that affects the operation of the HTP Project. The Certificate Holder shall submit a report on any such incident within seven days to the DPS Bulk Electric System Staff and Con Edison. The report shall contain, when available, copies of applicable drawings, copies of digital records and recordings, descriptions of the equipment involved, a description of the incident and a discussion of how future occurrences will be prevented. The Certificate Holder shall work cooperatively with Con Edison, NYISO and the NPCC to prevent any future occurrences.

69. The Certificate Holder shall make modifications to the HTP Project, if it is found by the NYISO or Con Edison to cause reliability problems to the New York State bulk transmission system. If Con Edison or the NYISO bring concerns to the Commission, the Certificate Holder shall be obligated to address those concerns.

70. If, subsequent to construction of the HTP Project, no electric power is transferred over such project for a period of more than a year, the Commission may consider the amendment, revocation or suspension of the Certificate.

71. In the event that an equipment failure of the HTP Project causes a reduction in the capability of such project to deliver power, the Certificate Holder shall promptly provide to the DPS Bulk Electric System Staff and Con Edison copies of all notices, filings, and other substantive written communications with the NYISO as to such reduction, any plans for making repairs to remedy the reduction, and the schedule for any such repairs. The Certificate Holder shall report monthly to the DPS Bulk Electric System Staff and Con Edison on the progress of any repairs. If such equipment failure is not completely repaired within nine months of its occurrence, the Certificate Holder shall provide a detailed report to the Secretary to the Commission, within nine months and two weeks after the equipment failure, setting forth the progress on the repairs and indicating whether the repairs will be completed within three months; if the repairs will not be completed within three months, the Certificate Holder shall explain the circumstances contributing to the delay and demonstrate why the repairs should continue to be pursued.

72. Within 60 days prior to commencement of operation of the HTP Project, the Certificate Holder shall file with the Secretary to the Commission, Operation and Maintenance Plan(s) for the HTP Project. These plans shall be reviewed yearly and updated. Copies shall be provided to Con Edison and to DPS Bulk Electric System Staff.

73. The Certificate Holder shall file a report with the Secretary to the Commission, regarding implementation of a Special Protection System if required to mitigate possible overloads from certain transmission outages, as well as copies of all studies (presently underway and future reports) that support the design of such system. In addition, the Certificate Holder shall provide all documentation for the design of special protection system relays, with a complete description of all components and logic diagrams. Prior to commencement of

operations, the Certificate Holder shall demonstrate through appropriate plans and procedural requirements that the relevant components of the Special Protection System will provide effective protection.

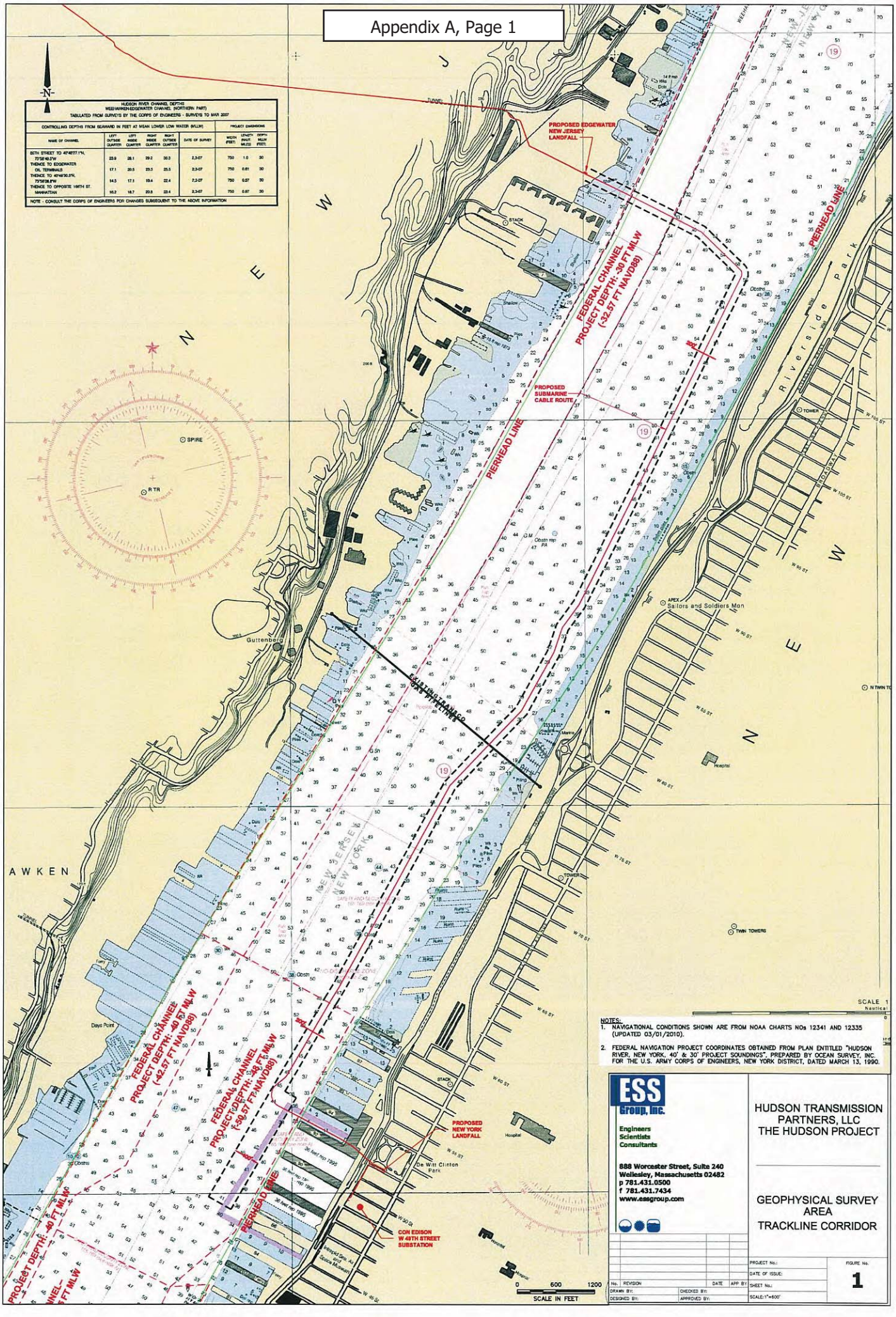
Miscellaneous Conditions

74. Within 60 days of completing Transmission Facility construction, the Certificate Holder shall consult with the OGS Bureau of Land Management regarding specifications for providing as-built information and mapping in conformance with the requirements of the OGS Bureau and 9 NYCRR Part 271. Within 60 days of that consultation, the certificate holder shall provide to the OGS Bureau as-built information and mapping complying with its specifications, and shall submit to the Secretary to the Commission copies of the as-built information and mapping and proof of filing with the OGS Bureau. The Certificate Holder shall provide plan and profile information of facility location (including shapefile information compatible with ArcView GIS software) to the DPS Staff.

75. Street trees and landscaping adversely affected by Transmission Facility construction activity shall be replaced with equivalent planting stock in accordance with standard arboricultural practices.

76. A safety manual shall be developed to address all construction procedures involved in construction of the Transmission Facility. This manual shall include, but not be limited to, trench stabilization procedures, pedestrian and traffic safety controls, and safe construction equipment operation and materials handling procedures.

77. Construction Progress Reports: The Certificate Holder shall commence construction within 18 months following the date of issuance of the Certificate or demonstrate to the Commission that there was reasonable cause for the delay and that there have not been any changes in circumstances that would require changes in the terms and conditions of the Certificate or the approved EM&CP. Reasonable cause for the delay may include delays in (a) the Commission's approval of the EM&CP, including all phases of a multi-phase EM&CP; (b) the issuance by the USACE of a §10/404 Permit to the Certificate Holder for the Project, or (c) the grant by the OGS of a Construction Permit for the Submarine Transmission Cable, for circumstances beyond the reasonable control of the Certificate Holder.



NOTES:
1. NAVIGATIONAL CONDITIONS SHOWN ARE FROM NOAA CHARTS NOs 12341 AND 12335 (UPDATED 03/01/2010).
2. FEDERAL NAVIGATION PROJECT COORDINATES OBTAINED FROM PLAN ENTITLED "HUDSON RIVER, NEW YORK, 40' & 30' PROJECT SOUNDINGS", PREPARED BY OCEAN SURVEY, INC. FOR THE U.S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT, DATED MARCH 13, 1990.

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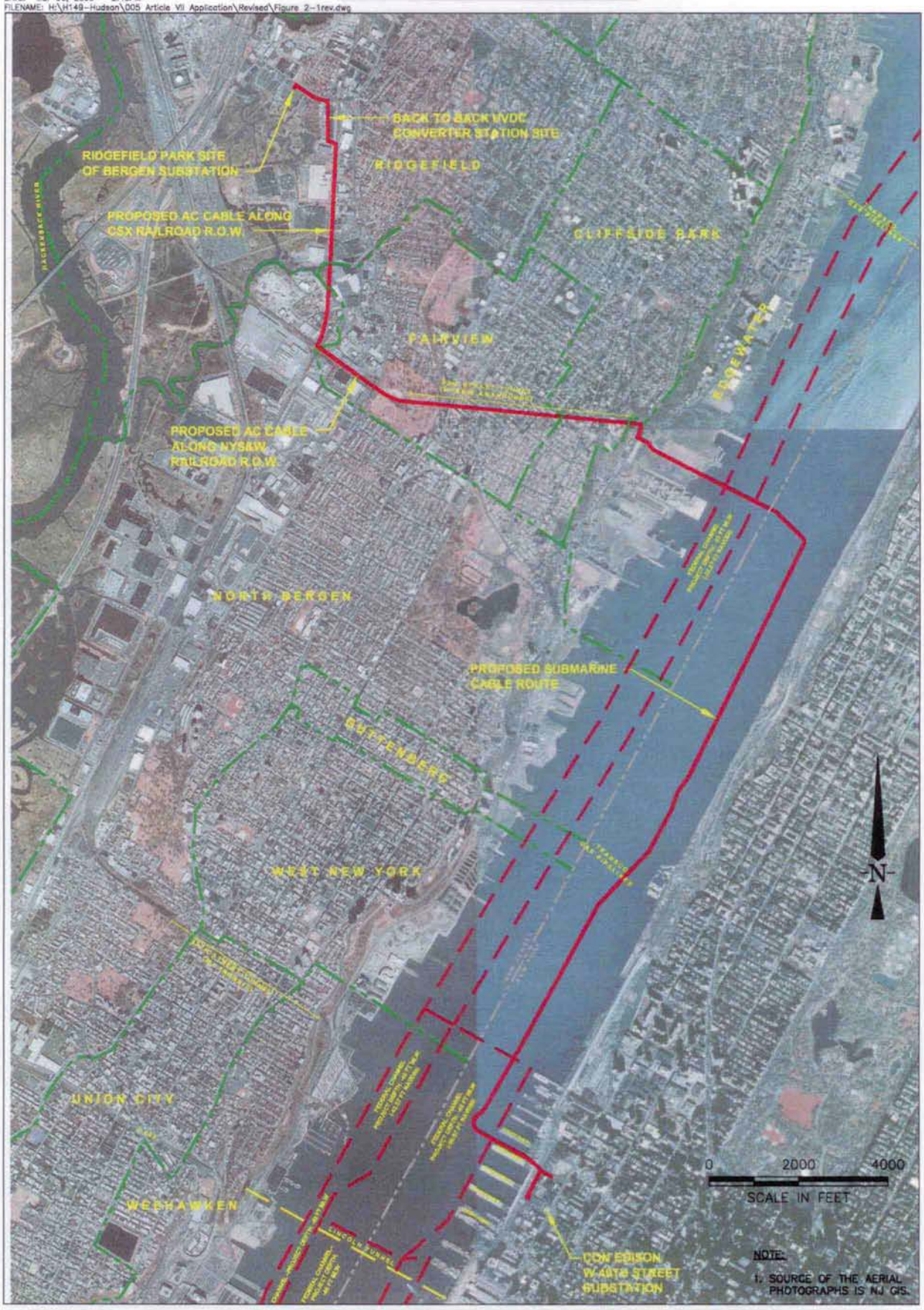
HUDSON TRANSMISSION PARTNERS, LLC
THE HUDSON PROJECT

GEOPHYSICAL SURVEY AREA
TRACKLINE CORRIDOR

No.	REVISION	DATE	APP BY
DRAWN BY:		CHECKED BY:	
DESIGNED BY:		APPROVED BY:	

PROJECT No.:
DATE OF ISSUE:
SHEET No.:
SCALE: 1"=600'
FIGURE No. 1

DATE: Mar 06, 2009 -- 2:46PM
FILENAME: H:\H149-Hudson\005 Article VII Application\Revised\Figure 2--1rev.dwg



ESS Group, Inc.
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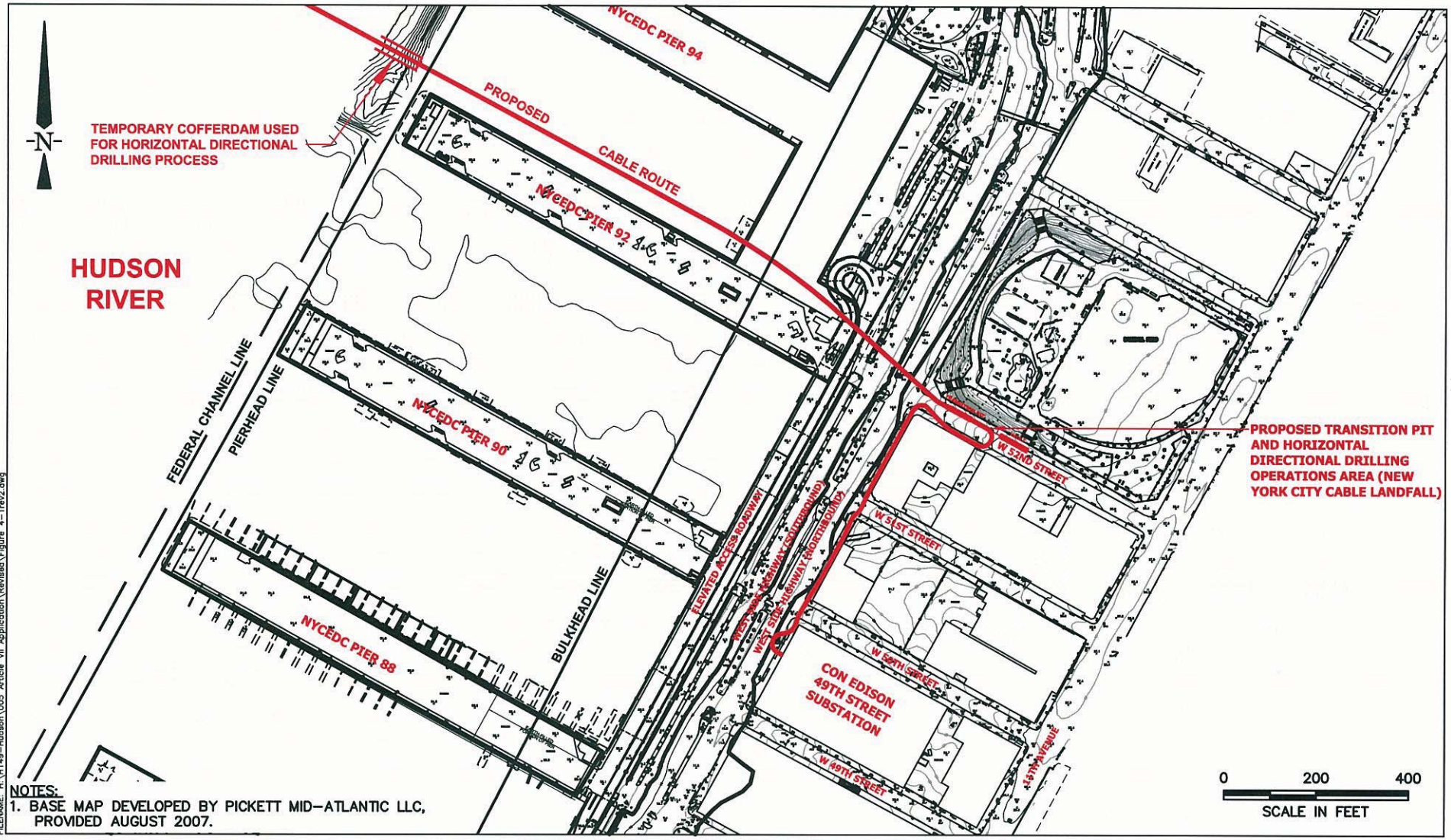
Scientists
Consultants

Hudson Transmission Partners, LLC
The Hudson Project

Scale: 1"=2000'

Project Site Locus
Revised 03/05/09

Figure 2-1



NOTES:
1. BASE MAP DEVELOPED BY PICKETT MID-ATLANTIC LLC, PROVIDED AUGUST 2007.

DATE: Apr 12, 2010 - 4:26PM
FILENAME: H:\H149-Hudson\005 Article VII Application\Revised\Figure 4-1rev2.dwg

ESS Group, Inc.
Engineers
Scientists
Consultants

Hudson Transmission Partners, LLC
The Hudson Project

Scale: 1"=200'

Existing Topographic Conditions at New York City Landfall
Revised 03/05/09

Figure 4-1

NEW YORK PUBLIC SERVICE COMMISSION

WATER QUALITY CERTIFICATION

Pursuant to: Section 401 of the Federal Clean Water Act, 33 U.S.C. Section 1341(a)(1); Article VII of the New York State Public Service Law; 16 NYCRR Subpart 85-2; and 6 NYCRR Subpart 608.9

Certification Issued to: Hudson Transmission Partners, LLC
501 Kings Hwy E, Suite 300
Fairfield, CT 06825-4870

Location of Project

Hudson Transmission Partners, LLC (HTP or Applicant) proposes to construct a major electric transmission facility consisting of a new back-to-back Alternating Current (AC)-Direct Current (DC)-AC Converter Station to be located in Ridgefield, New Jersey and installation of a new 230 kilovolt (kV) AC link to the nearby PSE&G Bergen Substation. From the Converter Station a new 345 kV AC electric transmission cable system will be routed underground from Ridgefield to Edgewater, New Jersey, where it will then cross the Lower Hudson River estuary, buried in the riverbed to make landfall at Piers 92-94 in Manhattan where it will then interconnect via upland underground cable to the existing Con Edison West 49th Street Substation. The details and justification for the Transmission Facility are contained in the administrative record before the New York State Public Service Commission in Case 08-T-0034.

Project Description

Project activities will consist of the installation of a submarine/underground cable system, which will consist of approximately three and eight-tenths miles of buried transmission cable in New York State, including within the lands beneath the Hudson River. The submarine portion of the proposed cable system will enter the riverbed in Edgewater, New Jersey and make landfall in Manhattan near the West 49th Street Substation. The proposed submarine cable system design will be self-contained fluid filled (SCFF) cable configuration and the upland cable system design will be a cross linked polyethylene (XLPE) cable system. Two fiber optic cables that support system communications will also be installed.

The submarine component of the Project will be installed using low impact, jet plow embedment methods. The submarine cable will be jetted (buried) into the river sediments to a minimum of 10 feet below the present bottom outside the limits of any established federal navigational channels along the route. Those portions of the submarine cable system that are located within the limits of a federal navigational channel will be located a minimum of 15 feet below the present bottom in accordance with United States Army Corp of Engineers (ACOE) permitting guidelines.

The submarine cable route will cross the Weehawken-Edgewater Federal Navigation Channel at a minimum crossing depth of -15 feet below the channel bottom where it will then enter within the designated Naval Anchorage Area 19 on the New York side of the Hudson River where the cable will then be buried to a minimum depth of -10 feet below the present bottom. Upon

entering the anchorage area, the jet plow route then heads south in New York State-owned riverbed between the existing NYC pierhead line and the adjacent anchorage area. The only existing in-river infrastructure facility that will require crossing by the HTP Project is an existing set of 24-inch diameter gas pipelines that are deeply buried in a west-east configuration (NY/NJ crossing located near West 77th Street) in the river, and are owned by Transcontinental Gas Pipeline Corporation (TRANSCO). After crossing the buried TRANSCO pipelines, the route continues south moving out of the anchorage area downriver along the New York State side, where it enters the easterly flank of the northerly end of an existing Federal Navigation Channel at West 59th Street. The submarine cable will exit the riverbed and make landfall in New York between the New York City Economic Development Corporation (NYCEDC) Passenger Ship Terminal Piers 92 and 94 via three horizontal directional drilling (HDD)-installed conduits connecting the river to the adjacent upland area at the area of West 52nd Street and DeWitt Clinton Park. The proposed submarine cable route is approximately 4.0 miles in length within the Hudson River. Landfall locations will require the temporary installation of cofferdams within the River at the HDD terminus points.

The submarine cable system will be routed east along the northerly side of the NYCEDC Pier 92 within the HDD conduits, where it will cross under 12th Avenue (also called the West Side Highway and NY State Route 9A) to a Transition Vault located in the area of W 52nd Street and DeWitt Clinton Park. The segment of the submarine cable system will then be pulled through the previously installed HDD conduit boreholes to connect with the underground transition vault.

From the Transition Vault the upland cable will be installed in an underground conduit system using typical open cut trenching and backfilling techniques within the public road right-of-way and sidewalks on West 52nd Street, and south on 12th Avenue to enter the Con Edison West 49th Street Substation at the front of the building bordering 12th Avenue. The proposed upland cable in New York will be approximately 0.38 miles in length.

Certification

The New York State Public Service Commission certified, pursuant to Section 401 of the Clean Water Act, 33 U.S.C. Section 1341(a)(1); Article VII of the New York State Public Service Law; 16 NYCRR Subpart 85-2; and 6 NYCRR Subpart 608.9, that if the Applicant submits an acceptable Environmental Management & Construction Plan (EM&CP) segment for the in-water construction work and complies with the conditions stated below, construction of the Project will comply with applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, as amended, and will not violate New York State water quality standards and requirements. This certification is issued with the Certificate issued to Hudson Transmission Partners, LLC in Case 08-T-0034.

Conditions

1. No in-water work shall commence until all pre-construction conditions relating to such work contained in the Certificate have been met to the satisfaction of the New York State Public Service Commission.

2. Construction and operation of the Transmission Facility shall at all times be in conformance with the application in Case 08-T-0034, to the degree not superseded by the Certificate, and all conditions of approval contained in the Certificate.

3. Construction and operation of the Transmission Facility shall at all times be in conformance with the Certificate of Environmental Compatibility and Public Need issued by the NYS Public Service Commission in Case 08-T-0034.

4. Construction and operation of the Transmission Facility shall at all times be in conformance with the EM&CP, and all conditions incorporated in any order approving the EM&CP, in case 08-T-0034.

5. The Applicant shall provide a copy of this certification to the U.S. Army Corps of Engineers along with a copy of the application, Certificate, EM&CP, and order approving the EM&CP (and all subsequent EM&CPs and approval orders) in Case 08-T-0034 so that the U.S. Army Corps of Engineers will have a complete record of the conditions that apply hereto.

6. The Applicant shall provide to all construction contractors complete copies of the Article VII Certificate, the approved EM&CP, and this certification.

7. (A) Construction within navigable waters shall be undertaken as and when permitted by the United States Army Corp of Engineers (USACE), but not during the period November 15 to June 1.

   (B) The following activities may be undertaken during the November 15 to June 1 period: Geotechnical and archeological sampling and testing; mobilization and demobilization of vessels and equipment used for cable installation and cofferdam construction; locating and marking utility crossings; and, on prior notice to DPS and DEC, required cable maintenance and repair work.

   (C) After prior consultation with the DEC and DPS, the Certificate Holder may petition the Commission for a modification of any construction window limitation, provided copies of the petition are served on all parties to this proceeding. Such petition shall include the results of such consultation.

   (D) The Certificate Holder shall install the cable at a burial depth of a minimum 15 feet below the existing riverbed within the Federal Navigation Channel and a minimum of 10 feet below the existing riverbed outside the Federal Navigation Channel.

(E) The Certificate Holder shall comply with any conditions contained in a Water Quality Certification issued pursuant to Section 401 of the Federal Clean Water Act.

8. During the jet plow trials and the installation, the Certificate Holder shall implement the Suspended Sediment/Water Quality Monitoring Plan attached as an Appendix (hereinafter the "Monitoring Plan"). The Certificate Holder shall operate the jet plow in accordance with the operating conditions determined through the jet plow trials described in the Monitoring Plan to minimize suspension of in-situ sediments, subject to the limitations of Condition 10(C), below.

9. If the jet plow trials demonstrate that the preferred operating conditions result in real-time, Total Suspended Solids (TSS)concentrations, measured 500 feet down-current of the jet plow, exceeding the TSS concentrations at the up-current background station by more than 200 mg/L, the Certificate Holder shall report such conditions to the Independent Inspector and work with the staffs of DPS and DEC to evaluate and implement reasonable modifications to the jet plow operating conditions to minimize in-situ sediment suspension associated with the single pass jet plow installation procedure.

10. Water quality:

(A) During jet plow installation, the Certificate Holder shall measure turbidity NTU), TSS, hardness, total PCB (method 608), arsenic, cadmium, copper, total mercury and lead concentrations within the water column of the Hudson River at a point outside the effects of the jetting event (the up-current background station) and at the transects down-current of the operating jet plow described in the Suspended Sediment and Water Quality Monitoring Plan attached as an Appendix. Metals shall be reported both as totals and as dissolved fractions, except mercury, which shall be reported as total mercury. Up-current samples shall be collected at a location at least 500 feet up-current of the jet plow (or at such greater distance as may be required to maintain a safe distance from the cable vessel) outside the effect of the jet plowing. Down-current samples will be collected 500 feet down-current of the jet plow. Samples shall be collected at three depths: Approximately 18 inches below the surface, at mid-depth and at three feet above the bottom.

(B) Suspended sediment plume monitoring and water quality monitoring shall be conducted at the locations and frequency set forth in the Monitoring Plan.

(C) If, during jet plow installation of the cable, TSS Concentrations measured at 500 feet down-current of the jet plow exceed TSS concentrations at the up-current background station by more than 200 mg/L, DPS Staff, DEC Staff and the Independent Inspector shall be immediately notified. The Certificate Holder shall immediately employ one or more of the following environmental protection measures after consultation with the field representatives of DPS Staff, DEC Staff and the Independent Inspector: changing the rate of advancement of the jet plow, modifying hydraulic jetting pressures, or implementing other reasonable

operational controls that may reduce suspension of in-situ sediments, but not in a manner that would materially delay the progress of work to complete the jetting installation procedure, meaning a delay that would increase the jet plow installation schedule by more than fifty percent. Nothing in this subsection is intended to require that hydraulic jetting pressures be reduced to levels which would not allow burial to the depths specified in the USACE permit through a single installation pass.

(D) During jet plow installation of the cable, the concentrations of total PCBs, total mercury, and of the dissolved fraction of arsenic, cadmium, copper, and lead, measured in the samples collected 500 feet down-current of the jet plow, shall not exceed the greater of:

(1) the levels set forth in the table below, or

(2) 1.3 times the highest ambient background level measured during the same sampling day at the up-current background station at the same depth as the down-current sample.

Chemical	Standard or Guidance value (ug/L)
Dissolved arsenic	36
Dissolved cadmium	7.7
Dissolved copper	7.9
Dissolved lead	204.0
Total PCBs	0.2 per aroclor
Total mercury	0.05

(E) All laboratory analyses of Hudson River water quality and marine sediments required in this Certificate must be conducted by a laboratory certified by the New York State Department of Health.

(F) Nothing in this Certificate and its appendices shall limit either (i) the authority of the DEC to monitor the environmental and health impacts resulting from the construction and operation of the project and to enforce applicable provisions of the Environmental Conservation Law (including those which provide for summary abatement authority) and applicable implementing regulations governing the environmental and health impacts resulting from such construction and operation., or (ii) any defenses to such enforcement that the Certificate Holder may be able to assert under applicable law.

11. To avoid disturbance to near shore sediments, the Certificate Holder shall employ horizontal directional drilling ("HDD") to install the submarine cable system from the proposed HDD drill pit to an exit pit in the bed of the Hudson River. The exit pit will be installed within a dredged cofferdam. No dredging is authorized by this Certificate except for dredging in connection with installation of the cofferdam and subsequent installation activities at the cofferdam location.

12. An environmental bucket shall be used for dredging silt or other fine-grained materials during cofferdam construction and transition operations. Drawings and specifications of the environmental bucket must be provided to the DEC Staff and DPS Staff prior to the anticipated start of dredging.

(A) A closed environmental bucket with sealing gaskets or an overlapping sealed design at the jaws, and seals or flaps positioned at locations of vent openings, shall be selected to minimize the loss of material during transport through the water column and into the barge. Seals or flaps designed or installed at the jaws and locations of vent openings must tightly cover these openings while the bucket is lifted through the water column and into the barge.

(B) If significant loss of water and visible sediments from the bucket is observed, the operator or Independent Inspector shall halt dredging operations and inspect the bucket for defects. Operations shall be suspended until all necessary repairs or replacements are made.

(C) The material removed may not be side cast or returned to the water. The bucket shall be lowered to the level of the barge gunwales prior to release of the load.

(D) Bucket hoist speed shall be limited to approximately 2 feet per second. The bucket shall be lifted in a continuous motion through the water column and into the barge. There shall be no barge overflow.

(E) The contractor shall demonstrate to the Independent Inspector's satisfaction that the bucket dredge operator has sufficient control over the bucket depth in the water and bucket closure so that the sediment re-suspension from bucket contact with the bottom and bucket over-filling is minimized.

(F) Only barges in good operating condition and appropriately designed to contain discharged sediments, shall be employed to contain the sediment and water placed in them. Deck barges shall not be employed, unless modified to allow no barge overflow.

(G) All sediments excavated during cofferdam construction and transition activities at the landfall location must be disposed of at a state approved upland disposal site. Dredged material shall not be side-cast, stockpiled on-site, or re-introduced into the harbor.

(H) The name and location of the source of all materials proposed for use as backfill in the cofferdam locations shall be identified in the EM&CP. Prior to backfilling the cofferdam locations, the applicant shall submit verification to the DEC and DPS Staff that the backfill materials are either from a virgin source or provide analytical data confirming that the material is suitable for use as backfill.

13. Water draining from dredged material on deck barges shall be filtered through geotextile fabric; following filtration, drained water shall be contained in a holding scow for a minimum of 24 hours after the last addition of water to allow for settling of fine sediments. Water shall be decanted and discharged into the Hudson River only following the mandatory holding period. Geotextile fabric specifications shall be provided in the EM&CP.

Certified by:

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Floyd Barwig, Director
Office of Energy Efficiency & Environment
New York State Department of Public Service
Three Empire State Plaza
Albany, New York 12223

Date: _____

APPENDIX

SUSPENDED SEDIMENT/WATER QUALITY MONITORING PLAN
FOR JET PLOW EMBEDMENT OPERATIONS

1.0 INTRODUCTION

This document presents the suspended sediment and water quality monitoring plan for the Hudson Transmission Project. This plan is to be implemented during pre-installation jet plow trial operations and during jet plow embedment of the cable system in New York State waters of the Hudson River. The suspended sediment disturbance created by jetting operations will be characterized along specified transects using a three fold approach: 1) by collecting in situ vertical profiles of the water column using a specially equipped Conductivity-Temperature-Depth-Optical Back Scatter Profiler; 2) by documenting the 3-dimensional current flow and suspended sediment cross section of the water column using a vessel-mounted Acoustic Doppler Current Profiler (ADCP); and 3) by collecting water samples at various depths for laboratory analysis of total suspended solids (TSS). In addition, water quality monitoring will be conducted during jet plow embedment at specified transects by collecting water samples at various depths for laboratory analysis of hardness, total PCBs (Method 608), total mercury, and total and dissolved arsenic, cadmium, copper and lead. Monitoring activities will be conducted down-current of jetting operations and at a background/control station up-current of the cable embedment operations.

2.0 General Monitoring Procedures

The physical characteristics and extent of the dispersing plume of sediment placed in suspension by the operating jet plow and concurrent TSS will be detailed from a small boat equipped with a combination of calibrated acoustic and optical instruments and a drawn water sampler. The acoustic instrumentation will consist of a high frequency ADCP. This system will provide nearly continuous profiles of acoustic backscattering intensity and coincident current speed and direction each 1 to 2 meters (m) over the vertical. The quantitative relationship between backscattering intensity and the concentration of suspended sediments (TSS) will be established during pre-installation trials discussed in Section 4 by comparing measured acoustic backscattering to the levels of TSS measured in drawn water samples. TSS concentrations in each drawn water sample will be determined by vacuum filtration through dried and pre-weighed filters (0.47 μ pore size). The Optical Back Scatter (OBS) sensor will be mounted on a conductivity/temperature/depth (CTD) Profiler. This combination of instrumentation will provide a continuous profile of optical backscattering as well as water temperature and salinity over the vertical at selected stations along each survey transect. The quantitative relationship between optical backscattering and TSS will be established during the pre-installation trials discussed in Section 4 by laboratory comparisons of OBS output signal levels to a range of suspended material concentrations. The drawn water samples obtained throughout the survey period will also be used to refine these pre-survey laboratory calibrations. Comparisons of these data and concurrent OBS and ADCP output signals will provide a continuing check on system stability and calibration. The combination of acoustic and optical instrumentation deployed on a

mobile small boat is considered the most comprehensive, accurate, and cost effective means to define background TSS conditions and to detail the character and extent (both space and time) of the plume of sediment placed in suspension by the operating jet plow. The instrument system (ADCP-CTD/OBS) will allow real time detailing of plume characteristics sufficient for both scientific and management needs. The ADCPCTD/OBS instrumentation will also collect data concurrently with the required drawn water sample collection for TSS and water quality constituent analysis so that comparisons of the real-time and drawn water sample results can be made. Water quality constituent sampling will focus on sampling and measuring water column concentrations of constituents specified in the conditions of this Certificate.

3.0 Suspended Sediment and Water Quality Monitoring Procedures

Sediment re-suspension during jet plow embedment will be monitored along transects run perpendicular to the direction of current flow and down-current of jet plow embedment operations. The characteristics of the suspended sediment plume created by jet plow embedment will be monitored in real-time using an RD Instruments ADCP, Seabird electronics CTD-OBS vertical profiler and a peristaltic pump sampling system. The ADCP and CTD-OBS instruments will be calibrated to measure suspended sediment concentrations through quantitative relationships between the ADCP, CTDOBS, and TSS. Monitoring of the suspended sediment plume will be conducted once during flood and once during ebb tide conditions as described below.

- Real-time monitoring will consist of ADCP measurements (boat mounted) and CTD-OBS profile measurements taken along three or more transects. The first transect will be conducted as close as possible to and down-current of the jet plow with the subsequent transects proceeding down-current for a sufficient distance and with a sufficient number of transects to characterize the limits of the jet plow induced plume. Possible transect distances may be 200 feet, 500 feet and 800 feet down-current of the jet plow installation device. The spacing and length of these transects will be adjusted in the field to establish the spatial extent of the down-current suspended sediment plume observed at the time of survey. The pre-installation jetting trial (described in Section 4.0) will help to determine the appropriate spacing of the transects. One transect will also be conducted approximately 500 feet up-current of the operating jet plow (or at a reasonably safe survey distance up-current of the jet plow) to detail ambient or background conditions.

- At each transect, the survey vessel will collect vessel-mounted ADCP current and backscatter data throughout the water column. At the conclusion of each transect, a CTD-OBS vertical profile will be collected at the location of the highest acoustic backscatter seen in the ADCP data. Discrete water samples will be collected at three depths (near-surface, mid-depth, and near bottom) at the up-current transect, 500 feet down-current, and greater than or equal to 800 feet down-current of the operating jet plow. Water samples will be shipped to an analytical laboratory for analysis of by-weight concentrations of TSS.

- In addition, water quality samples will be collected at the up-current transect to represent background conditions and at the transect located 500 feet down-current of the operating jet plow to obtain measurements needed to calculate jet plow-induced water quality constituent concentrations. These water samples will also be collected and analyzed at three discrete depths (near-surface, mid-depth, and near bottom). Water samples will be shipped to an analytical laboratory for analysis of hardness; total PCBs (Method 608); total mercury; and total and dissolved arsenic, cadmium, copper and lead.

- Failure to collect samples over the course of the installation will be considered a violation of certificate conditions.

- If, during jet plow installation of the cable, the near-bottom, mid-depth, or near-surface TSS concentrations measured 500 feet down-current of the operating jet plow exceed the near-bottom, mid-depth, or near-surface TSS concentrations at the up-current background station by more than 200 mg/L, then NYSDPS Staff, NYSDEC Staff and the independent environmental monitor shall be immediately notified. In addition, reasonable and feasible mitigation measures would be implemented after consultation with these representatives such as changing the rate of advancement of the jet plow, modifying hydraulic jetting pressures, or implementing other reasonable operational controls that may reduce suspension of **in-situ** sediments but not in a manner that would unreasonably delay the progress of work to install the submarine cable system. Nothing in this monitoring plan is intended to require that operational adjustments to the jet plow be made that would prevent burial of the cable to the depths specified in the permit conditions through a single installation pass.

4.0 Pre-installation Trial Suspended Sediment Monitoring

A pre-installation trial operation of the jet plow equipment will be conducted prior to commencement of cable burial to simulate operation and possibly refine jet plow operating configurations. This trial will be conducted in actual field conditions within representative sections or areas proximate to the proposed submarine cable route. The trial is expected to be conducted over a period of approximately two (2) days. The trial will include the laying, burial and recovery of approximately 1,000 feet of an appropriate “test object” selected to simulate the actual cable. Suspended sediment plumes associated with the jetting trial will be monitored using the ADCP, CTD-OBS vertical profiles, and drawn water samples as described above. This trial will allow contractors to test operational settings of the jet plow in order to minimize re-suspension of sediments while still achieving adequate burial. In addition, the trial will provide an opportunity to refine suspended sediment monitoring procedures including the calibration of acoustic, optical backscatter and water sampling equipment as well as communication protocols between the monitoring and installation crews. Procedures to be followed during jet plow embedment of the cable system may be modified based on the findings of the pre-installation trial. Modifications may include adjustment of transect locations, number of drawn water samples collected, methods for deploying equipment, and the procedures for correlation of drawn

water samples with real-time equipment. Any modification to the monitoring plan would be subject to NYSDEC and NYSDPS approval.

In addition, the preferred operating conditions will be verified by the Independent Inspector and reported to the NYSDEC and NYSDPS Staff. Water samples will be collected at multiple points in the tidal cycle during the trials to generate data required to develop a calibration curve for calibration of the OBS sensor. The calibration will consist of a regression type analysis. Once calibration procedures have been completed, a calibration curve will be generated and provided to NYSDEC Staff and NYSDPS Staff prior to the commencement of cable burial. The calibration curve will be updated based on data collected during the actual cable installation.

5.0 Sampling and Analysis Schedule

Suspended sediment and water quality field monitoring will be conducted every day, during daylight hours, during jet plow embedment of the cable system in the Hudson River. Water samples collected for TSS analysis are anticipated to be transferred to a New York State certified laboratory every 24 hours. Once samples are received at the laboratory, the total turnaround time, including laboratory analysis, data entry, and data processing is expected to take four to six days. Water samples collected for selected metals, hardness, and PCB analysis will be transferred to a New York State certified laboratory at the end of each sampling day following collection or may be batched over a few days if holding times allow. Once samples are received by the laboratory, the total turnaround time is expected to be 21 to 28 days; therefore, these data will not be available prior to the completion of submarine cable installation.

6.0 Reporting

Results of the pre-installation trial will be summarized along with any findings or recommendations for procedures to be followed during cable burial. These results will be summarized in a brief letter report and provided to the NYSDEC and NYSDPS. Once cable burial activities begin, available real-time data results can be reported verbally on a daily basis to a designated contact at NYSDEC if desired. After completion of cable burial activities, a final report will be prepared that will include a description of procedures followed during the monitoring program, field data results, analytical testing data results, accompanying QA/QC data, and a summary discussion evaluating the results. The final report will include the actual correlations between real optical and acoustical backscatter equipment and corresponding TSS results from drawn water samples. The report will also include a comparison of TSS results to project-required thresholds and a comparison of water quality results to relevant water quality standards. The final report summarizing the results of the suspended sediment/water quality monitoring program will be submitted to the NYSDEC and NYSDPS within six months of the completion of installation.